PROPOSAL FOR NEW ACADEMIC PROGRAM

Proposal to add a Bachelor of Environmental Design (BEnvD)

Locus: University of Hawaiʻi at Mānoa School of Architecture

Chair/Convener of Planning Committee: Thomas Bingham, Interim Dean

Program Category: New, Undergraduate

Degree Proposed: Bachelor of Environmental Design (BEnvD)

Proposed Date of Implementation: Fall Semester 2014
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1. Program Objectives

Overall Objectives
The School of Architecture (SoA) would offer a strong, independent undergraduate pre-professional program specific to the design of built environment in the Asia Pacific region with the Bachelor of Environmental degree.

The program objective is to replace the current undergraduate degree for architecture majors, the Bachelor of Arts in Interdisciplinary Studies (BA in IS) with the Bachelor in Environmental Design (BEnvD). The BEnvD reflects an appropriate degree nomenclature for a pre-professional degree in architecture. No changes in existing curriculum are anticipated.

The primary goals are to:
(a) provide a pre-professional undergraduate degree that gives students qualifications to enter professional programs in architecture or related fields,
(b) provide an undergraduate degree that allows graduates to immediately enter the job market in fields pertaining to the design and construction of the built environment,
(c) provide ease of access to architectural education for individuals in Hawaii and out of state, including articulation agreements with other UH system programs, and
(d) provide a solid educational foundation for the graduate professional degree in architecture or for other graduate education in design fields.

The proposed program is a 120 credit undergraduate program that may be completed in four years of full-time study. The curriculum includes UHM General Education requirements, required architecture courses, architecture electives and concentration courses. Coursework taken in the first two years of study is basic design education and UHM General Education requirements. During the third and fourth years the students select elective courses to fulfill a selected Concentration in Construction Management, Historic Preservation, Interior Design, Landscape Design, Urban Design, or Architecture Design.

The proposed BEnvD curriculum is identical to the BA in Interdisciplinary Studies curriculum for architecture majors. Students currently enrolled in the BA in IS program would be able to transfer to the BEnvD program without any additional coursework.
Background
Architectural education at the University of Hawai‘i began in 1946 with a two-year Pre-Architecture program offered in the College of Applied Science. The Master of Architecture (M. Arch.) curriculum received accreditation by the National Architectural Accrediting Board (NAAB) in 1972. The Bachelor of Architecture (B. Arch.) curriculum was accredited by NAAB in 1978. In 1999, a 212-credit first professional Architecture Doctorate (Arch. D.) degree was approved by the University Board of Regents to replace the existing M. Arch. and B. Arch. degree programs. In 2004, the seven-year Arch. D. program was accredited by NAAB as a first professional degree program. A first professional architecture degree is a degree accredited by the National Architecture Accrediting Board (NAAB) as the academic requirement for licensure in Architecture in most states. There are three degree titles for the first professional degree: B. Arch., M. Arch. and D. Arch.

In 2007 at the request of NAAB, the University authorized the change in degree title from Architecture Doctorate (Arch. D.) to Doctor of Architecture (D. Arch.) to align with the other accredited professional degree titles of B. Arch., M. Arch., D. Arch.

In 2004 (Arch. D.), 2007 (D. Arch.) and 2013 (D. Arch.) the school received the maximum re-accreditation term for the professional program. The next accreditation visit is in 2018. In the most recent 2012 visit all Student Performance Criteria (SPCs) were regarded as "Met" (letter to the UHM Chancellor dated on March 20, 2013), which is a highly laudable achievement.

Effective Fall 2012, the seven-year D. Arch. degree program changed into a 4-year 120 credit undergraduate pre-professional program and a 3-year 90 credit graduate professional program. This change was for the D. Arch. degree to comply with accreditation requirements that require minimum undergraduate and graduate credits. A pre-professional degree in architecture is a preparatory degree in architecture at the undergraduate level. This 4 + 3 split allows flexibility for a student to either exit the School with an undergraduate degree or enter the professional architecture program at the graduate level. Students with an undergraduate degree that is not pre-professional degree can also enter the professional program and complete the D. Arch. graduate program in 3.5 years of 108 graduate credits.

Since 2010 and a program agreement with Interdisciplinary Studies, architecture students have had the option of earning the degree of Bachelor of Arts in Interdisciplinary Studies. However,
the new degree title BEnvD better than BA in IS reflects the pre-professional curriculum completed by a undergraduate architecture major.

Program Justification
According to the NAAB 2012 Report on Accreditation in Architecture Education, of the 120 American institutions that offer accredited professional architecture degrees, 79 also offer a four-year pre-professional degree in architecture. The programs that do not offer a pre-professional degree usually have an undergraduate professional program, such as a five year B. Arch. program.

In the United States, licensure is required to practice the profession of architecture. The National Council of Architectural Registration Boards (NCARB) requires a NAAB accredited professional degree. Hawaii and California do not require a professional degree to take the licensing examination; they require several additional years of approved internship for individuals not holding a NAAB accredited professional degree.

Success of the BA in IS program
Since 2010, the School has partnered with the UHM Interdisciplinary Studies Program to offer an undergraduate degree for architecture students. By May 2013, approximately 110 architecture majors had earned the BA in IS degree. This clearly indicates the need of an undergraduate degree for the UHM architecture majors. While NAAB has recognized the degree “BA in Interdisciplinary Studies” as a pre-professional degree, the title is not recognized in the academic or professional field as a pre-professional degree in architecture. This may hinder our students pursuing employment opportunities or graduate coursework outside of Hawai’i. Pre-professional degrees titles include: the Bachelor of Arts in Environmental Design, Bachelor of Environmental Design, and Bachelor of Arts in Architectural Studies. The Bachelor of Environmental Design (BEnvD) best expresses the foci of the UHM program in general, and that of its School of Architecture in particular.

A defined pre-professional undergraduate program in architecture has many advantages by offering:
(a) a recognized undergraduate degree with a specific concentration area that is valuable in a career that does not require licensure in architecture,
(b) a pre-professional degree for the students continuing in the D. Arch. graduate program,
(c) a pre-professional degree required for entry in another university's graduate professional program in architecture or landscape architecture, and
(d) a bachelors degree with broad interdisciplinary scope to those students who have decided to pursue graduate studies in another discipline and/or unrelated field.

BEnvD graduates continuing their concentration area studies may apply to another UHM graduate program other than architecture to pursue an advanced degree, particularly in Civil and Environmental Engineering, Urban and Regional Planning, Natural Resources and Environmental Management, Tropical Plant and Soil Sciences, and Historic Preservation. There are multiple career opportunities in the building industry for graduates holding a pre-professional degree with the concentration areas of this BEnvD degree proposal (see 2. State Needs).

Incoming students will have a clear idea that they are in a pre-professional architecture program with the BEnvD degree title. With a separate undergraduate degree in Architecture, students will be able to participate in the Western Undergraduate Exchange (WUE), the forthcoming UHM SoA Honor Program, and be eligible for the UHM Centennial and Chancellor’s Scholarships. These are currently not possible with an BA in IS.

124 SoA undergraduate students were surveyed regarding their interest in having a BEnvD instead of a BA in IS. To the question, “Which degree would you prefer?” 119 (96%) chose the BEnvD over the BA in IS.

2. Program objectives related to appropriate functions of the School and University

Program Relation to Mission
The pre-professional BEnvD program is closely aligned to the mission of UH, UH Mānoa, and the School. The Vision of the School is Global Connections. The School of Architecture inspires transformative design at the global scale with pre-eminence in the Asia-Pacific region. Our mission is: Building for the 21st Century. The School of Architecture responds to our unique location in the Asia-Pacific region and recognizes the privilege and responsibility to address cultural, environmental, and social diversity. We commit to passionate and engaging community participation through teaching, learning, research, professional practice, and service. Our core values are: "Knowledge/ Creativity/ Passion/ Community + Environmental Responsibility."
The proposed BEnvD program includes: (a) a commitment to excellence and innovation in teaching, research and service, (b) an emphasis on leadership, critical thinking, and ethical behavior, (c) a commitment to sustain and foster a Hawaiian sense of place, (d) an emphasis on research, scholarship, and public outreach within the Asia Pacific region, and, (e) a commitment to the core value of sustainability through the integration of sustainable design concepts and strategies throughout the curriculum and program.

Our Vision and Mission and values reflect the vision, mission, and values of the UHM Strategic Plan and its goals of:

UHM goal: a transformative teaching and learning environment,
BEnvD program: experiential learning in the hands-on education of the design studio, transdisciplinary study in concentration areas,

UHM goal: a global, leading research university,
BEnvD program: international studio opportunities, faculty with strong global research interests using undergraduates as researchers

UHM goal: an engaged university,
BEnvD program: Hawaiian Place of Learning with community service projects, partnerships with local design firms and community organizations, promoting leadership and involvement in campus governance as well as policies beyond the academia,

UHM goal: facilitating excellence.
BEnvD program: the program has a number of courses which focus on Hawaiian and Asia-Pacific issues in addition to local and global architectural practice; strong general education in the liberal arts and sciences, which will give them insight into culture, society and social justice, and the art, knowledge about appropriate passive and active sustainable technologies for appropriate economic development

State Needs
The program addresses a number of urgent needs found in Hawai‘i. The state has made a renewed commitment to protecting the natural environment, lessening reliance on non-renewable resources, and preserving and enhancing the natural beauty of Hawai‘i. The school addresses these issues by incorporating sustainable design into all courses, conducting timely planned
studies in environmental design, and undertaking sustainable design research combined with community outreach. For example, studio courses and school research labs have contributed ideas, designs, and other forms of applied design research to directly impact and improve local environmental conditions.

The BEnvD program prepares its graduates for the current and future needs in careers in Architecture, Landscape Design, Urban Design and Planning, Construction and Project Management, Historic Preservation, and Interior Design. These fields have a major role to play in the effort to build livable and sustainable communities and to lessen the use of non-renewable energy sources. Therefore, demand should increase for individuals having ability in these areas and who are able to work in varied cultural settings, in private and public entities, including policy making in government. Given the unique cultural and climatic conditions in Hawai‘i, it is crucially important that the only School of Architecture in the State provides education for such needs at both the pre-professional and professional levels.

According to the publication, “Long-Term Occupational Projections, State of Hawaii, 2010-2020,” produced by the State of Hawaii Department of Labor and Industrial Relations, in the period 2010 to 2020 the total number of additional jobs forecast, the growth projection by percentage, number of annual openings, and required degree applicable to the BEnvD concentration areas are:

- **Construction Managers**
  - 2,690-3230 job increase
  - 20.1 %, growth
  - 120 annual openings
  - Bachelors degree required
- **Landscape Architects**
  - 120-130 job increase
  - 9.7% growth
  - 10 annual openings
  - Professional degree required
- **Urban and Regional Planners**
  - 400-560 job increase
  - 15% growth
• Interior Designers
  o 190-220 job number change
  o 15.8% growth
  o 10 annual openings
  o Bachelors degree required

• Architectural and Civil Drafters
  o 520-500 job increase
  o -0.4 % growth
  o 10 annual openings
  o Associates degree required

• Historic Preservation [Museum Technicians and conservators],
  o 30-40 job increase
  o 33 % growth
  o Not given -annual openings
  o Bachelors degree required

D. Arch. degree
• Architects
  o 560-620 job increase
  o 10.7% growth
  o 20 annual openings
  o Professional degree required

The only career path without growth indicated in the next ten years is jobs as “Architectural and Civil Drafters” which requires an Associate degree. Consequently an articulation agreement with the Community Colleges to transfer to students to Mānoa for a Bachelor’s degree is important to provide additional career choices for these students (see 4. Who Will Enroll).

According to the publication Hawai‘i’s Green Workforce: A Baseline Assessment [December 2010] by the State’s Department of Labor and Industrial Relations, the so-called “green jobs” are anticipated to increase faster than other occupations in the overall labor market in Hawai‘i. Construction has the largest number of green jobs at 3,327, or 30 percent of the State’s total
green jobs. Moreover, 52 percent of O‘ahu’s green vacancies are in Construction. The same source also points out that LEED certification is a major aspect in the endeavor to meet The Hawai‘i Clean Energy Initiative by “training architects, designers and contractors in new technologies and methods to design energy-efficient homes and worksites.” (p. 37). Hence, one of the required undergraduate electives included in the concentrations in the BEnvD program curriculum is ARCH 490 Special Topics: LEED Certification.

In the BEnvD program, these considerations include but are not limited to the design of: healthy buildings and communities, mixed use zoning, walkable developments, passive sustainable strategies, active energy-efficient technologies, and supplementary improvements of the built environment. Other issues addressed by the curriculum are: urban ecology and systems; economic and social sustainability; environmental and social justice and responsibility; socially and culturally inclusive design; community participation and collaboration; accessibility, human behavior and environmental psychology.

3. Program organization as related to meeting program objectives

Curriculum Organization and Requirements
The program is a 120-credit undergraduate program that may be completed in four years of full-time study. The program contains all coursework to fulfill UHM General Education requirements with the objective of providing a grounding in liberal arts and sciences with specific education in fields of study pertaining to the design and construction of the built environment. Students are required to complete concentration requirements by selecting eight courses from a specified list of concentration electives. Each student selects a concentration after Year Two to guide the selection of upper division electives. The student can choose from one of six areas:

(a) **Construction Management**, which contains courses in Architecture, Civil Engineering, Geography, Planning, Sociology, Anthropology, and Geology.

(b) **Historic Preservation**, which contains courses in Architecture, Philosophy, American Studies, Planning, Sociology, and Anthropology.

(c) **Interior Design**, which contains courses in Architecture, Fashion Design Textiles & Mdsg (FDM, former Apparel Product Design & Merchandising), Art, Art History, American Studies, Ethnic Studies, and Philosophy.
(d) **Landscape Design**, which contains courses in Architecture, Tropical Plant & Soil Sciences, Planning, Anthropology, Sociology, and Geography (existing agreements are in place with CTAHR).

(e) **Urban Design**, which contains courses in Architecture, Natural Resource & Environmental Management, Geography, Planning, Anthropology, Philosophy, and Sociology.

(f) **Architecture Design**, which contains courses in Architecture, Civil Engineering (the School of Architecture has an existing agreement to work directly with the College of Engineering for teaching specific required/elective courses), Geography, Planning, Anthropology, Sociology, and Art.

Unlike most pre-professional programs, the BEnvD contains architecture and design coursework in the first two years of study in order to allow the student to determine if the study of architecture or related disciplines is right for her/him, and if not, to transfer to another UHM program without any or a significant loss of time or credits.

Overall, the undergraduate curriculum is structured into five strands: (1) Design – which includes courses in design thinking, design communication, and computer applications, (2) Technology – which includes courses in building materials, structures, building systems, environmental controls, and sustainable systems, (3) History/Theory – which includes courses in world architecture and urbanism and design theory, and, (4) Professional Practice – which requires students to take courses offering an overview of professional practice in the environmental design disciplines, and (5) Concentration electives. The curriculum and course descriptions are in the Appendix.

**Admissions Policies**
The School has an open admissions policy. Admission to the program follows all procedures and requirements as set forth by UHM Admissions and Records (Undergraduate Admissions). The student would select architecture as his/her major on their UHM application, and, if admitted by UHM, would be enrolled in the School's undergraduate program. Transfer students will be required to submit a portfolio if advance standing is desired.

**Advising**
Advising is intended to empower students to make the best choices for their education, complete their education within their specified time frame, get the best overall education through the
appropriate selection of instructors and courses, and help retain and graduate students. The program objectives are directly supported by achieving these advising goals.

In keeping with UHM policy, advising is mandatory for all SoA freshmen and sophomores; in addition to individual advising, the School’s Student Services office provides group advising sessions. Undergraduate advising is shared by the SoA Director of Student Services and the Chair of Undergraduate Programs.

4. Who Will Enroll

The BEnvD is intended for any student who has not yet completed a bachelor’s degree and who has interest in architecture or related concentration areas. The incoming student may wish to use this program as a terminal degree to enter various design fields concerned with the design and construction of the built environment, or to continue to graduate level studies in a professional architecture or landscape architecture program, or pursue a master’s degree in the concentration areas. All students can use the BEnvD program to provide a strong foundation for careers in the design or management of built environment, or in further studies in programs related to environmental and architectural design.

The following UH System certificate or degree programs have content related to the proposed program: Architectural Technology, Art, Carpentry Technology, Civil Engineering, Environmental Studies, Fashion Technology, Historic Preservation, Industrial Education, Horticulture and Landscape Management, Natural Resources & Environmental Management, Occupational & Environmental Safety Management, Planning, Plant & Environmental Biotechnology, Plant Landscaping, Urban & Regional Planning, as well as programs in Architecture, Engineering and CAD Technologies, and Construction Management.

Students may start studies at UH in another field and elect to transfer to the BEnvD program as most General Education requirements are met in the first two years. Conversely, a student in the program may decide to transfer to another UH program. Articulation agreements with the representatives of various UH Community Colleges has begun by the Chair of Undergraduate Programs. Such agreements benefit all students and help to strengthen the respective UH programs. Currently accepted course equivalencies among the proposed BEnvD curriculum are:
UHM ARCH 100 = AEC 135 (Honolulu CC)
UHM ARCH 320 [will be 220] = AEC 118, 130, 136 (Honolulu CC)
UHM ARCH 100 = AEC 115 (Hawaii CC)
UHM ARCH 320 [will be 220] = AEC 118, 130, 138 (Hawaii CC)

5. Required Resources for program implementation and first cycle operation

Faculty FTE
In AY 2012-2013, the undergraduate program enrollment was approximately 200 students. The BEnvD can be established without additional resources. A small increase in enrollment can be covered by slightly increasing class size or with strategic use of lecturers. The faculty FTE shown in the Academic Cost and Revenue Template for the early years of the program are allocated from the existing program, and therefore are not an addition to the current instructional budget.

In case of considerably higher number of new student applicants, the school would cap enrollment by competitive admissions or by adopting other means of managing the size of the student body, such as portfolio reviews. The latter is already in place in the end of Year Three of the undergraduate program. A portfolio process could be added in the end of Year Two as a prerequisite for proceeding to the next level of the undergraduate program or to assist in advising to transfer to another UHM program.

Support Personnel
Existing resources in Student Services are adequate for the program implementation and first cycle operation. The SoA Students’ Services include the Director and temporary hires for everyday office functions and student assistance. The Chair of Undergraduate Programs is in charge of the undergraduate curricular issues. In addition, the Chair of Undergraduate Programs shares a student assistant with the Chair of Professional Programs. The Director of Students’ Services and the Chair of Undergraduate Programs share the undergraduate advising load that can be slightly increased without additional personnel.

If enrollment increases significantly, additional student assistant positions may be needed in the Fabrication Workshop or Digital Services. It is expected that the additional Professional Fees created by the increased enrollment will be used to fund these support functions. Note that support staff salary amounts included in the Academic Cost and Revenue Template for the early
years of the program are allocated from the existing undergraduate and graduate programs, and therefore are not an addition to the current staff budget.

**Library Resources**
The school currently relies primarily upon library resources available through UHM Hamilton and Sinclair Libraries. In addition, the school houses a small collection of books and periodicals in the John and Maria Lynn Reading Room. Coordination in keeping the collection up to date in Hamilton library will continue.

**Supplies and Equipment**
Increased Professional Fees should cover normal increase in the cost of supplies. Additional equipment costs are not anticipated.

**Physical Resources**
Currently all architecture students enrolled in a studio have their own dedicated workstation, though common standards (such as NAAB accreditation) do allow shared studio space for students in the first and second years of a program. A small enrollment increase can be accommodated by increasing class size and/or shared workstations in the two first years. A moderate increase can be accommodated with enrollment management.

**Program Funding**
Increased enrollment will provide additional Professional Fee revenue to offset additional costs as indicated in the Academic Cost and Revenue Template. The tuition and Professional Fee structure for the BEnvD is proposed to be the same as for the existing BA in IS. Currently, Architecture majors are assessed a Professional Fee of $500 per semester. If the BEnvD is granted, a Professional Fee proposal would be submitted to and approved by the UH Board of Regents to include this same fee for the BEnvD degree. The Professional Fee revenue is entered on line H “Other” of the Academic Cost and Revenue Template and assumes the $500/semester rate for all years of the program.

**6. Program Efficiency**
The Bachelor of Environmental Design will have a neutral impact on the School, as the proposed program will replace the existing BA in Interdisciplinary Studies (Architectural Studies). Current
allocations are sufficient to support the program. Please refer to the attached Academic Program Cost and Revenue Template.

**Headcount Enrollment and SSH**
These figures are based on headcount enrollment and annual SSH in the current BA in Interdisciplinary Studies (Architectural Studies) program. We anticipate that enrollment will remain steady at 230-240 students.

**Instructional Cost and FTE**
The FTE presented in the template represents the number of FTE required to support the undergraduate program only. These estimates are based on the faculty FTE used to support the current BA in Interdisciplinary Studies (Architectural Studies) program. The total FTE for the School is 14.1.

**Other Personnel Costs**
The Student Services Office is staffed with a secretary and student help to support the work of the Undergraduate and Graduate Chairs. $30,000 is the estimated proportion dedicated to the undergraduates.

**Unique Program Costs**
The unique program costs reflect regular software and equipment updates needed to maintain the undergraduate program. The cost for these updates is estimated at $25,000-$35,000 per year.

**Other Revenue**
Students in Architecture are assessed a professional fee of $500 per semester. The template reflects the estimated professional fee revenue from the undergraduate program only.

**Comparable Program**
The Bachelor of Science in Civil and Environmental Engineering is selected as the comparable program.
7. Program Effectiveness

Overall Assessment Objectives
Program quality will be ensured through student assessment (including eCafé), admissions, academic standards, student and faculty development programs, curriculum refinement, and other faculty-led evaluation methods. Assessment of existing courses is based especially on the Institutional Learning Objectives (ILO), the Student Learning Outcomes (SLO) and NAAB Student Performance Criteria (SPC) assigned for each course. Starting Fall 2008, SPCs and/or SLOs were required to be listed on each course syllabus; in Spring 2014 ILOs in addition will be required to be listed.

Course Assessment
The school has used the NAAB standards and procedures as a primary means of assessment for the professional programs offered. Student work is collected from each course to provide evidence that the SLOs and SPCs have been “Met”.

During the semesters, faculty and invited guests attend midterm and final studio critiques to give feedback to the studio instructor and students. At the end of the semester student work evidence is collected and evaluated by all faculty on one-day faculty review during last week of instruction. Course contents or faculty are changed to better meet the assigned SPC’s and SLO’s and ILOs when so indicated. Instructors provide the first level of interpretation of learning for students in their courses. Curriculum changes are made as a result of assessing student learning in each course and the development of learning over the full arc of the curriculum.

While the undergraduate, pre-professional program is not a NAAB accredited program, all core undergraduate courses include NAAB SPCs to provide a foundation for students advancing to the professional degree and to allow for review of transfer students into the program. The Dean and an assessment committee review student work samples submitted to provide evidence of meeting the NAAB SPC’s.

School Student Learning Outcome Assessment
Student Learning Outcomes (SLO’s) have been developed for all required and elective courses. The School submits yearly an annual assessment to the Manoa Assessment Office. Institutional Learning Objectives starting in Spring 2014 will also be included in the assessment.
**Other Assessment**

All instructors are required to submit course syllabi prior to the beginning of a semester to the Chairs of Undergraduate and Professional programs. The syllabi are reviewed for compliance with the required course content, format, and the assigned SPCs and SLOs and ILOs. All students are required to complete an end of the semester course/instructor evaluation through eCafé. These evaluations are used in conjunction with other measures to help faculty improve their teaching performance and student learning. The curriculum committee meets frequently to review courses, curriculum sequence, and other issues, and makes recommendations for improvement.

**Projected Number of Graduates**

With about 230 majors, the projected number of graduates is 30-40 per year.
ATTACHMENT 1 – NAAB Statements

The following entry is excerpted from, “The National Architectural Accrediting Board
NAAB Conditions for Accreditation for Professional Degree Programs in Architecture 2009
Edition.”

Professional Degrees and Curriculum: The NAAB accredits the following professional degree programs: the Bachelor of Architecture (B. Arch.), the Master of Architecture (M. Arch.), and the Doctor of Architecture (D. Arch.). The curricular Requirements for awarding these degrees must include professional studies, general studies, and electives. Schools offering the degrees B. Arch., M. Arch., and/or D. Arch. are strongly encouraged to use these degree titles exclusively with NAAB-accredited professional degree programs.

The number of credit hours for each degree is specified below. Every existing accredited program must conform to the following minimum credit hour requirements by January 1, 2015.

Doctor of Architecture. Accredited degree programs awarding the D. Arch. degree must require either an undergraduate baccalaureate degree; or a minimum of 120 undergraduate semester credit hours; or the undergraduate-level quarter-hour equivalent, and a minimum of 90 graduate-level semester credit hours; or the graduate-level quarter-hour equivalent, in academic coursework in professional studies and electives.

Curricular requirements are defined as follows:

General Studies. A professional degree program must include general studies in the arts, humanities, and sciences, either as an admission requirement or as part of the curriculum. It must demonstrate that students have the prerequisite general studies to undertake professional studies. The curriculum leading to the architecture degree must include at least 45 credit hours, or the quarter-hour equivalent, outside of architectural studies either as general studies or as electives with other than architectural content.

For the M. Arch. and D. Arch., this calculation may include coursework taken at the undergraduate level.

Professional Studies. The core of a professional degree program consists of the required courses that satisfy the NAAB Student Performance Criteria. The accredited degree program has the flexibility to require additional courses including electives to address its mission or institutional context.

Electives. A professional degree program must allow students to pursue their special interests. The curriculum must be flexible enough to allow students to complete minors or develop areas of concentration, inside or outside the program.
ATTACHMENT 2 – Program Curriculum Information

The following chart illustrates the curriculum and concentration areas of the proposed BEnvD program.

<table>
<thead>
<tr>
<th>CONCENTRATION Coursework</th>
<th>8 total required courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONSTRUCTION MANAGEMENT Concentration Required Coursework</td>
<td>LANDSCAPE DESIGN Concentration Required Coursework</td>
</tr>
<tr>
<td>Reconstruction Studio</td>
<td>Required Coursework</td>
</tr>
<tr>
<td>CEE 472 Construction Management (IS Third College)</td>
<td>TPSS 30xx: Any course at this level (IS Third College)</td>
</tr>
<tr>
<td>ARCH 471 Historic Architecture Design Seminar</td>
<td>ARCH 366 Introduction to Planning</td>
</tr>
<tr>
<td>Four 3 or 4 credit courses in the College of Arts and Sciences in at least two of these departments, one must satisfy the DS Core requirement of General Education</td>
<td>Four 3 or 4 credit courses in the College of Arts and Sciences in at least two of these departments, one must satisfy the DS Core requirement of General Education</td>
</tr>
<tr>
<td>History, Planning, Sociology, Anthropology, Geology</td>
<td>Geography, Planning, Anthropology, Botany</td>
</tr>
<tr>
<td>Two additional Architecture Electives at the 300 or 400 level</td>
<td>Two additional Architecture Electives at the 300 or 400 level</td>
</tr>
<tr>
<td>HISTORIC PRESERVATION Concentration Required Coursework</td>
<td>URBAN DESIGN Concentration Required Coursework</td>
</tr>
<tr>
<td>Required Coursework</td>
<td>Required Coursework</td>
</tr>
<tr>
<td>MUEST 30xx: Any course at this level (IS Third College)</td>
<td>NIEM 30xx: Any course at this level (IS Third College)</td>
</tr>
<tr>
<td>Four 3 or 4 credit courses in the College of Arts and Sciences in at least two of these departments, one must satisfy the DS Core requirement of General Education</td>
<td>Four 3 or 4 credit courses in the College of Arts and Sciences in at least two of these departments, one must satisfy the DS Core requirement of General Education</td>
</tr>
<tr>
<td>History, American Studies, Planning, Anthropology, Sociology</td>
<td>Geography, Planning, Anthropology, Sociology, Philosophy</td>
</tr>
<tr>
<td>Two additional Architecture Electives at the 300 or 400 level</td>
<td>Two additional Architecture Electives at the 300 or 400 level</td>
</tr>
<tr>
<td>INTERIOR DESIGN Concentration Required Coursework</td>
<td>ARCHITECTURE DESIGN Concentration Required Coursework</td>
</tr>
<tr>
<td>Required Coursework</td>
<td>Required Coursework</td>
</tr>
<tr>
<td>APOD 30xx: Any course at this level (IS Third College)</td>
<td>CEE 472 Construction Management (IS Third College)</td>
</tr>
<tr>
<td>ARCH 481 Introduction to Architecture</td>
<td>ARCH 481 Special Topics: LEED</td>
</tr>
<tr>
<td>Four 3 or 4 credit courses in the College of Arts and Sciences in at least two of these departments, one must satisfy the DS Core requirement of General Education</td>
<td>Four 3 or 4 credit courses in the College of Arts and Sciences in at least two of these departments, one must satisfy the DS Core requirement of General Education</td>
</tr>
<tr>
<td>Art (Studio), Art History, American Studies, Ethnic Studies, Philosophy</td>
<td>Geography, Planning, Anthropology, Sociology, Art (Studio)</td>
</tr>
<tr>
<td>Two additional Architecture Electives at the 300 or 400 level</td>
<td>Two additional Architecture Electives at the 300 or 400 level</td>
</tr>
</tbody>
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ATTACHMENT 3 – Course Descriptions of ARCH Undergraduate Courses

ARCH 100 Introduction to the Built Environment (3) Exploration of human responses to place, climate, culture, communication, technology, and time, with emphasis on the impact of scientific knowledge and architectural design theory on history, culture, sociology, technology and built form. DS

ARCH 101 Basic Architecture Studio (4) Hands-on exploration of materials and construction techniques and introduction to architectural design processes. Investigation of architecture as creation of space generated by human needs and aspirations including analysis of exemplary precedents. DA

ARCH 132 Design Communication (4) Exploration of critical judgment and means to conceptualize, develop, represent, and communicate architectonic form and space, including fundamentals of freehand drawing, mechanical drawing, physical model making, diagramming, and graphic techniques. DA

ARCH 200 Professional Practice of Architecture (3) Investigation of disciplines that address contemporary transformative issues. Emphasis on the role of architecture and the use of multi-disciplinary and collaborative methods to address critical issues. Pre: 100.

ARCH 201 Architecture Studio (4) Development of designs and processes to explore solutions responding to human needs in the built and natural environment with emphasis on analysis and representation architectonic space and form using hand and computer techniques. Pre: 132 and either ART 113 or ART 116. DA

ARCH 235 Computer Applications in Architecture (4) Exploration of digital design fundamentals and their application to architectural analysis, conceptualization, design process, and communication of design intent. Repeatable three times. Pre: 132, and ART 113 or ART 116.

ARCH 251 Introduction to Landscape Architecture (3) Principles and practice of landscape planning, design, and technology. Ecological, sociocultural, and natural science determinants of landscape form and pattern.

ARCH 271 World Architecture and Urbanism A (3) Investigation of the history and theory of architecture in the world's major cultural regions, from early agricultural settlements to 1500 C.E. Investigation of architecture in relationship to social, political, technological, and material forces. Pre: HIST 151. DH

ARCH 272 World Architecture and Urbanism B (3) Investigation of the history and theory of architecture from the 15th century C.E. to the present. Investigation of architecture in relationship to social, political, technological, and material forces. Pre: HIST 151 and HIST 152. DH
ARCH 320 Introduction to Architectural Systems A (3) Introduction to building systems, including structural, environmental, life-safety, building envelope, building materials and building assemblies. Development of design skills with emphasis on elevating skills in assessing and selecting appropriate building systems. Pre: MATH 140.

ARCH 321 Introduction to Architectural Systems B (3) Investigation of buildings as related to social and natural systems. Study of water, plumbing, energy generation, renewable energy, lighting, acoustics, vertical transportation, fire safety, and introduction to heating, ventilation, and air conditioning. Pre: 320 and PHYS 151/151L.

ARCH 322 Sustainable Systems (3) Qualitative and quantitative investigation of HVAC systems and sustainable building design with emphasis on high-performance building design and operation, innovative mechanical and energy systems, integrated energy and resource conservation and renewable energy systems. Pre: 321.

ARCH 341 Intermediate Architecture Studio A (4) Architectural design with emphasis on space planning, building materials, technology, climatic responses, and codes including complex functional requirements, multi-story design issues, vertical transportation, structure, and finishes. Production of complete schematic design documents. Pre: 201, 235, and 320.


ARCH 350 Introduction to Planning (3) Perspectives on planning; planning tools and methods; specific Hawai'i planning/research problems from a multidisciplinary approach. Pre: consent. DS

ARCH 351 Introduction to Urban Design (3) Principles and practice of urban design within the comprehensive planning process. Sociocultural, economic, political, environmental determinants of urban form and pattern. DS

ARCH 352 Landscape Architecture History, Theory, and Practice (3) Surveying the development of landscape architecture as an art form from Mesopotamia to present. Exploring the theory, profession and art of landscape architecture in the world by physical, social, economic, political, and cultural environmental factors. (Cross-listed as TPSS 352) DH

ARCH 353 Landscape Graphics Studio (3) Basic skills of landscape graphic communication through a creative process model. Learning free hand and technical drafting techniques to creative effective landscape graphics. Pre: consent. (Cross-listed as TPSS 353) DA

ARCH 354 Tropical Landscape Planting Design Studio (3) Students will develop basic skills of residential landscape graphic and design processes in order to clearly articulate the ability to think, analyze, and extend a physical solution in the proper scale. Repeatable one time. (Cross-listed as TPSS 354) DA
ARCH 371 Design Theory (3) Examination of theories, movements, and periods in architectural history focusing on contemporary issues. Introduction to analytic techniques for achieving understanding of formal and spatial ordering of architectural and site constructs. Pre: 271 and 272.

ARCH 372 Special Topics in Architectural History and Theory (3) An examination of specific theories, movements, or periods of architectural history. Changing topics to be taught by both regular and visiting faculty. Repeatable three times. Pre: 271 and 272. DH

ARCH 399 Directed Work (V) Pre: consent.

ARCH 400 Project Management (3) Exploration of the management of architectural services from project initiation through project completion. Investigation of project delivery options; management of project design teams, project operations and services; design parameter definition; design service documentation; and project execution. A-F only. Pre: 200.

ARCH 405 Selected Design Studio (3) Special architecture/interior architecture problems individually selected by students or faculty to sharpen design skills. Repeatable one time.

ARCH 406 Office Research Practicum (3) Learn design research method[s]. Conduct architectural design research under the guidance of a practicing architect in an office setting in an area of the architect's expertise and interest. The experience also exposes students to the professional practice of architecture via shadowing an architect mentor relative to typical design process activities, communication techniques, and professional ethics issues. A-F only. Pre: 200.

ARCH 415 Concentration Architecture Studio (6) Professional experience combined with scholarly and research activity occurring in an off-campus location with a focus on architectural concentration areas. Pre: 322, 342, and 371. DP

ARCH 432 Construction Management (3) Design professional's role during the building procurement process, particular emphasis on documentation and construction phases. Analysis of value of professional construction management services.

ARCH 433 Professional Practice Law and Ethics (3) Exploration of the practice of architecture including: professionalism; office organization and administration; public, client, consultant, and other contractor relations; project administration, procedure and compensation; construction law and contract administration. A-F only. Pre: 200.


ARCH 435 Architectural Economics (3) Survey of fundamental business principles and economic theories as they relate to professional practice for design professionals. DS
ARCH 442 Introduction to Urban Design (3) Principles and practice of urban design within the comprehensive planning process. Sociocultural, economic, political, environmental determinants of urban form and pattern. DS

ARCH 451 Landscape Architecture Design Seminar (3) Principles and practice of landscape architecture within the comprehensive design processes of the built environment. Focus on context-specific sociocultural, economic, political, environmental determinants of landscape forms and patterns.

ARCH 461 Introduction to Interior Architecture (3) Introduction and orientation to the field. Fundamental design principles and elements as applied to interiors. Basic materials and methods of interior construction; basic professional and business practices. Critical analysis of an existing interior space. Repeatable three times. DA

ARCH 471 Historic Architecture Design Seminar (3) Introduction to historic preservation. Exploration of design principles and elements as applied to conservation of historic resources, including basic conservation materials and methods, professional practices, and critical analysis of existing methodologies.

ARCH 472 Documentation of Historic Architecture (V) Study and documentation of existing buildings, structures, and sites of historic and/or cultural significance, including field measurements and drawings, historical research, photo documentation, and preparation of archival drawings to be deposited in the Library of Congress. Documentation conducted according to standards of the Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER). Repeatable three times. Pre: consent. (Cross-listed as AMST 475)

ARCH 473 History of American Architecture (3) History of American architecture in terms of style, techniques, and symbolic meaning. (Cross-listed as AMST 423) DH

ARCH 474 Preservation: Hawai‘i, Asia, and the Pacific (3) Lectures and discussions on historic preservation issues in Hawai‘i, Asia, and the Pacific. Emphasis on indigenous and national expressions. Pre: junior standing or consent. (Cross-listed as AMST 474) DH

ARCH 477 Research Seminar (V) Research methodology for the qualitative development of an optimum environment. Repeatable three times. Pre: consent.

ARCH 490 Special Topics (3) Selected topics in any aspect of architecture. Content to be announced. Repeatable three times.

ARCH 491 Special Topics in Architecture History (3) Specialized work on the history and theory of architecture. Repeatable unlimited times.

ARCH 492 Special Topics in Architectural Technology (3) Specialized investigation of technological developments in structural systems, environmental control systems, or materials and methods of construction. Repeatable unlimited times.
ARCH 493 Special Topics in Architecture and Design (3) Work on specialized topics in the fields of architecture and design. May include research and/or studio experiences in architecture, interior architecture, computer-aided design, professional practice, advanced visual design, and architectural graphics. Repeatable unlimited times.

ARCH 495 (Alpha) Foreign Exchange (3) Various coursework including design, history, theory, technology, and sustainability offered for international exchange students. (E) elective; (L) laboratory; (P) project; (S) seminar. Pre: departmental approval.
ATTACHMENT 4 - NAAB Student Performance Criteria (SPC)

The following are the accreditation requirements from the National Architecture Accrediting Board. The Student Performance Criteria satisfied by courses in undergraduate program are shown after each student performance criteria. The School of Architecture uses the NAAB Student Performance Criteria for the Student Learning Outcomes for each course within the program. SPC met at the graduate level are shown in brackets [ARCH xxx].

STUDENT PERFORMANCE – EDUCATIONAL REALMS & STUDENT PERFORMANCE CRITERIA

The accredited degree program must demonstrate that each graduate possesses the knowledge and skills defined by the criteria set out below. The knowledge and skills are the minimum for meeting the demands of an internship leading to registration for practice.

The school must provide evidence that its graduates have satisfied each criterion through required coursework. If credits are granted for courses taken at other institutions or online, evidence must be provided that the courses are comparable to those offered in the accredited degree program.

The criteria encompass two levels of accomplishment:

Understandings—The capacity to classify, compare, summarize, explain and/or interpret information.

Abilities—Proficiency in using specific information to accomplish a task, correctly selecting the appropriate information, and accurately applying it to the solution of a specific problem, while also distinguishing the effects of its implementation.

The NAAB establishes performance criteria to help accredited degree programs prepare students for the profession while encouraging educational practices suited to the individual degree program. In addition to assessing whether student performance meets the professional criteria, the visiting team will assess performance in relation to the school’s stated curricular goals and content. While the NAAB stipulates the student performance criteria that must be met, it specifies neither the educational format nor the form of student work that may serve as evidence of having met these criteria. Programs are encouraged to develop unique learning and teaching strategies, methods, and materials to satisfy these criteria. The NAAB encourages innovative methods for satisfying the criteria, provided the school has a formal evaluation process for assessing student achievement of these criteria and documenting the results.

For the purpose of accreditation, graduating students must demonstrate understanding or ability as defined below in the Student Performance Criteria (SPC):

II.1.1 Student Performance Criteria: The SPC are organized into realms to more easily understand the relationships between individual criteria.

Realm A: Critical Thinking and Representation:
Architects must have the ability to build abstract relationships and understand the impact of ideas based on research and analysis of multiple theoretical, social, political, economic, cultural and environmental contexts. This ability includes facility with the wider range of media used to think about architecture including writing, investigative skills, speaking,
drawing and model making. Students’ learning aspirations include:

- Being broadly educated.
- Valuing lifelong inquisitiveness.
- Communicating graphically in a range of media.
- Recognizing the assessment of evidence.
- Comprehending people, place, and context.
- Recognizing the disparate needs of client, community, and society.

A.1. Communication Skills: *Ability to* read, write, speak and listen effectively.

A.2. Design Thinking Skills: *Ability to* raise clear and precise questions, use abstract ideas to interpret information, consider diverse points of view, reach well-reasoned conclusions, and test alternative outcomes against relevant criteria and standards. ARCH 101, ARCH 201, ARCH 341, ARCH 342, [ARCH 541, ARCH 542]

A.3. Visual Communication Skills: *Ability to* use appropriate representational media, such as traditional graphic and digital technology skills, to convey essential formal elements at each stage of the programming and design process. ARCH 132, ARCH 235, [ARCH 533]

A.4. Technical Documentation: *Ability to* make technically clear drawings, write outline specifications, and prepare models illustrating and identifying the assembly of materials, systems, and components appropriate for a building design. ARCH 322, [ARCH 525, ARCH 544]

A.5. Investigative Skills: *Ability to* gather, assess, record, apply, and comparatively evaluate relevant information within architectural coursework and design processes. ARCH 322, ARCH 341, [ARCH 542]

A.6. Fundamental Design Skills: *Ability to* effectively use basic architectural and environmental principles in design. ARCH 201, ARCH 341, ARCH 342, [ARCH 542, ARCH 544]

A.7. Use of Precedents: *Ability to* examine and comprehend the fundamental principles present in relevant precedents and to make choices regarding the incorporation of such principles into architecture and urban design projects. ARCH 341, ARCH 342, [ARCH 541]

A.8. Ordering Systems Skills: *Understanding* of the fundamentals of both natural and formal ordering systems and the capacity of each to inform two- and three-dimensional design. ARCH 132, ARCH 201, [ARCH 541]

A.9. Historical Traditions and Global Culture: *Understanding* of parallel and divergent canons and traditions of architecture, landscape and urban design including examples of indigenous, vernacular, local, regional, national settings from the Eastern, Western, Northern, and Southern hemispheres in terms of their climatic, ecological, technological, socioeconomic, public health, and cultural factors. ARCH 271, ARCH 272, [ARCH 575, ARCH 576]

A.10. Cultural Diversity: *Understanding* of the diverse needs, values, behavioral norms, physical abilities, and social and spatial patterns that characterize
different cultures and individuals and the implication of this diversity on the societal roles and responsibilities of architects. ARCH 100, ARCH 271, ARCH 272, [ARCH 575, ARCH 576]

A.11. Applied Research: Understanding the role of applied research in determining function, form, and systems and their impact on human conditions and behavior. ARCH 415, [ARCH 539, ARCH 546, ARCH 548]

Realm B: Integrated Building Practices, Technical Skills and Knowledge: Architects are called upon to comprehend the technical aspects of design, systems and materials, and be able to apply that comprehension to their services. Additionally they must appreciate their role in the implementation of design decisions, and the impact of such decisions on the environment. Students learning aspirations include:

Creating building designs with well-integrated systems.

- Comprehending constructability.
- Incorporating life safety systems.
- Integrating accessibility.
- Applying principles of sustainable design.

B. 1. Pre-Design: Ability to prepare a comprehensive program for an architectural project, such as preparing an assessment of client and user needs, an inventory of space and equipment requirements, an analysis of site conditions (including existing buildings), a review of the relevant laws and standards and assessment of their implications for the project, and a definition of site selection and design assessment criteria. ARCH 433, [ARCH 542]

B. 2. Accessibility: Ability to design sites, facilities, and systems to provide independent and integrated use by individuals with physical (including mobility), sensory, and cognitive disabilities. ARCH 342, [ARCH 541, ARCH 542]

B. 3. Sustainability: Ability to design projects that optimize, conserve, or reuse natural and built resources, provide healthful environments for occupants/users, and reduce the environmental impacts of building construction and operations on future generations through means such as carbon-neutral design, bioclimatic design, and energy efficiency. ARCH 322, ARCH 415, [ARCH 525, ARCH 542]

B. 4. Site Design: Ability to respond to site characteristics such as soil, topography, vegetation, and watershed in the development of a project design. ARCH 415, [ARCH 543]

B. 5. Life Safety: Ability to apply the basic principles of life-safety systems with an emphasis on egress. ARCH 342, [ARCH 541]

B. 6. Comprehensive Design: Ability to produce a comprehensive architectural project that demonstrates each student’s capacity to make design decisions across scales while integrating the following SPC: [ARCH 544]

A.2. Design Thinking Skills
A.4. Technical Documentation
A.5. Investigative Skills
A.8. Ordering Systems
A.9. Historical Traditions and Global Culture
B.2. Accessibility
B.3. Sustainability
B.4. Site Design
B.5. Life Safety
B.8. Environmental Systems
B.9. Structural Systems

B.7 Financial Considerations: Understanding of the fundamentals of building costs, such as acquisition costs, project financing and funding, financial feasibility, operational costs, and construction estimating with an emphasis on life-cycle cost accounting. ARCH 433, [ARCH 545]

B.8 Environmental Systems: Understanding the principles of environmental systems' design such as embodied energy, active and passive heating and cooling, indoor air quality, solar orientation, day lighting and artificial illumination, and acoustics; including the use of appropriate performance assessment tools. ARCH 322, [ARCH 525]

B.9. Structural Systems: Understanding of the basic principles of structural behavior in withstanding gravity and lateral forces and the evolution, range, and appropriate application of contemporary structural systems. ARCH 321, [ARCH 523, ARCH 524]

B.10. Building Envelope Systems: Understanding of the basic principles involved in the appropriate application of building envelope systems and associated assemblies relative to fundamental performance, aesthetics, moisture transfer, durability, and energy and material resources. [ARCH 525, 544]

B.11. Building Service Systems: Understanding of the basic principles and appropriate application and performance of building service systems such as plumbing, electrical, vertical transportation, security, and fire protection systems. ARCH 321, ARCH 322, [ARCH 525, ARCH 544]

B.12. Building Materials and Assemblies: Understanding of the basic principles utilized in the appropriate selection of construction materials, products, components, and assemblies, based on their inherent characteristics and performance, including their environmental impact and reuse. [ARCH 544, ARCH 525, ARCH 526]

Realm C: Leadership and Practice:
Architects need to manage, advocate, and act legally, ethically and critically for the good of the client, society and the public. This includes collaboration, business, and leadership skills. Student learning aspirations include:

Knowing societal and professional responsibilities.
Comprehending the business of building.
Collaborating and negotiating with clients and consultants in the design process.
Discerning the diverse roles of architects and those in related disciplines.
Integrating community service into the practice of architecture.
C. 1. Collaboration: *Ability* to work in collaboration with others and in multi-disciplinary teams to successfully complete design projects. [ARCH 544, ARCH 545, ARCH 547/49/50]

C. 2. Human Behavior: *Understanding* of the relationship between human behavior, the natural environment and the design of the built environment. ARCH 433, [ARCH 543]

C. 3 Client Role in Architecture: *Understanding* of the responsibility of the architect to elicit, understand, and reconcile the needs of the client, owner, user groups, and the public and community domains. ARCH 433 [ARCH 545, ARCH 547/49/50]

C. 4. Project Management: *Understanding* of the methods for competing for commissions, selecting consultants and assembling teams, and recommending project delivery methods. ARCH 433, [ARCH 545, ARCH 547/49/50]

C. 5. Practice Management: *Understanding* of the basic principles of architectural practice management such as financial management. ARCH 433, [ARCH 545, ARCH 547/49/50]

C. 6. Leadership: *Understanding* of the techniques and skills architects use to work collaboratively in the building design and construction process and on environmental, social, and aesthetic issues in their communities. ARCH 433, [ARCH 545, ARCH 547/49/50]

C. 7. Legal Responsibilities: *Understanding* of the architect’s responsibility to the public and the client as determined by registration law, building codes and regulations, professional service contracts, zoning and subdivision ordinances, environmental regulation, and historic preservation and accessibility laws. ARCH 433, [ARCH 545]

C. 8. Ethics and Professional Judgment: *Understanding* of the ethical issues involved in the formation of professional judgment regarding social, political and cultural issues in architectural design and practice. ARCH 433, [ARCH 545, ARCH 547/49/50]

C.9. Community and Social Responsibility: *Understanding* of the architect’s responsibility to work in the public interest, to respect historic resources, and to improve the quality of life for local and global neighbors. ARCH 200, ARCH 415 [ARCH 543, ARCH 547/49/50, ARCH 575]
ATTACHMENT 5 – Academic Cost and Revenue Template.
Notes on line items.

A. Headcount Enrollment (Fall)
Enrollment estimates are based on current figures for new incoming freshman and transfer students and students in the first four years of the current D. Arch. program that would transfer to the BEnvD program.

B. Annual SSH
The figure for each academic year is calculated by: number 1st yr. students x 11 ARCH credits + number 2nd yr. students x 23 ARCH credits + number 3rd yr. students x 26 ARCH credits + number 4th yr. students x 12 ARCH credits.

C. Instructional Cost without Fringe
   C1. Number (FTE) of FT Faculty/Lecturers
The figures shown for the first 3 years of the BEnvD program (AY 10-11 – AY 12-13) are faculty FTE that are currently teaching in the D. Arch. program and are therefore a part of the existing school instruction budget, and are not in addition to it. Due to increased enrollment in the final three years of the program shown on the Template (AY 13-14 – AY 15-16), one additional FTE is shown which would be in addition to the existing school instruction budget.
   C2. Number (FTE) of PT Lecturers
Given recent UHM Budget restrictions, it is assumed that no part-time lecturers would be employed.

D. Other Personnel Costs
The figure shown is a fractional percentage (approx. 50%) of staff and administrative support overhead costs of the existing D. Arch. program. Therefore, the figure is taken as part of the existing school staff budget, and is not in addition to it. The total figure shown includes $35,000 per year for Teaching Assistants.

E. Unique Program Costs
Includes modest incidental costs for student field trips, reading room resources, guest critics, minor material expense allocations for design studio courses, and other miscellaneous expenses.
F. Total Direct and Incremental Costs
Calculated by the Template (sum of C, D, and E).

G. Tuition rate per credit
The tuition rates for AY 10-11 – AY 11-12 is per the published UHM tuition schedule (Resident). Since no tuition information for subsequent years is available, the AY 11-12 rate is used for all subsequent years of the program as shown (despite the likelihood of future tuition increases). Tuition of non-resident students is not accounted for in the template format and therefore all students are indicated as residents.

H. Other
Effective AY 09-10, the school charges a Professional Fee of $500 per semester (entered as $1,000/AY/student). This fee is approved by the UH BOR through AY 11-12, after which it is subject to renegotiation. Since the Professional Fee amount is unknown for years beyond AY 11-12, this rate is used for all subject years shown years as shown (despite the likelihood of increases).

I. Total Revenue
Calculated by the Template (sum of G and H).

J. Net Cost (Revenue)
Calculated by the Template (a negative number indicates net revenue or revenue in excess of cost).

K. Instructional Cost with Fringe/SSH
  K1. Total Salary FT Faculty/Lecturers
  Since specific faculty have not been assigned to the program, and will vary over the life of the program, the salary rate base is assumed to be an average of current full time faculty salaries.
  K2. Cost Including Fringe of K1
  Calculated by the Template.
  K3. Total Salary of PT Lecturers
  No part time faculty are assumed to be teaching in the program (see also C2. above).
  K4. Cost including fringe of K3
  Calculated by the Template.

L. Support Cost/SSH
  Non-Instructional Exp/SSH
Amount entered is as reported by UH* (07-08 data).

**System-wide Support/SSH**
Amount entered is as reported by UH* (07-08 data).

**Organized Research/SSH**
Amount entered is as reported by UH* (07-08 data).

**M. Total Program Cost/SSH**
Calculated by the Template (sum of K and L).

**N. Total Campus Expenditure/SSH**
Amount entered is as reported by UH* (07-08 data)

**O. Comparable Cost/SSH**
Amount entered is as reported by UH* for the UHM B.S. in Civil Engineering (BSCE) degree program; the report shows Lower Division (LD) as $371/SSH for 2,452 total SSH, and Upper Division (UD) as $515/SSH for 9,312 total SSH. This calculates to $486/SSH average for the undergraduate program. This program is the closest match to the BEnvD program in terms of content, number of students, and professional orientation.
### Academic Cost and Revenue Template - New Program (adjust template for appropriate number of years) (Updated 06/12/12)

#### ENTER VALUES IN YELLOW CELLS ONLY

<table>
<thead>
<tr>
<th>CAMPUS/Program</th>
<th>MANOA/ Architecture</th>
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<tbody>
<tr>
<td>Provisional Years (2 yrs for Certificate, 3 yrs for Associate Degree, 6 yrs for Bachelor’s Degree, 3 yrs for Masters Degree, 5 yrs for Doctoral Degree)</td>
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</tbody>
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|------|-----------|-----------|-----------|-----------|-----------|-----------|

#### Students & SSH

| A. Headcount enrollment (Fall) | 229 | 229 | 236 | 236 | 242 | 242 |
| B. Annual SSH | 1,405 | 1,405 | 1,447 | 1,447 | 1,491 | 1,491 |

#### Direct and Incremental Program Costs Without Fringe

| C. Instructional Cost without Fringe | $502,730 | $537,921 | $575,575 | $615,866 | $658,977 | $705,105 |
| C1. Number (FTE) of FT Faculty/Lecturers | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 |
| C2. Number (FTE) of PT Lecturers | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| D. Other Personnel Costs | $30,000 | $30,000 | $35,000 | $35,000 | $35,000 | $35,000 |
| E. Unique Program Costs | $20,000 | $20,000 | $25,000 | $25,000 | $25,000 | $25,000 |
| F. Total Direct and Incremental Costs | $552,730 | $587,921 | $635,575 | $685,866 | $728,977 | $775,105 |

#### Revenue

| G. Tuition | $535,305 | $576,050 | $638,127 | $685,878 | $706,734 | $706,734 |
| H. Other | $229,000 | $229,000 | $236,000 | $236,000 | $242,000 | $242,000 |
| I. Total Revenue | $764,305 | $805,050 | $874,127 | $921,878 | $948,734 | $948,734 |

#### Program Cost per SSH With Fringe

| K. Instructional Cost with Fringe/SSH | $472 | $505 | $525 | $551 | $583 | $624 |
| K1. Total Salary FT Faculty/Lecturers | $450,803 | $482,359 | $516,124 | $552,253 | $590,911 | $632,275 |
| K2. Cost Including Fringe of K1 | $608,584 | $651,185 | $696,767 | $745,542 | $797,730 | $853,571 |
| K3. Total Salary PT Lecturers | $51,927 | $55,562 | $59,451 | $63,613 | $68,066 | $72,830 |
| K4. Cost Including fringe of K3 | $54,523 | $58,340 | $62,424 | $66,794 | $71,469 | $76,472 |
| L. Support Cost/SSH | $435 | $435 | $435 | $435 | $435 | $435 |
| M. Total Program Cost/SSH | $907 | $940 | $960 | $996 | $1,018 | $1,059 |
| N. Total Campus Expenditure/SSH | $970 | $970 | $970 | $970 | $970 | $970 |

#### Instruction Cost with Fringe per SSH

| K. Instructional Cost/SSH | $472 | $505 | $525 | $551 | $583 | $624 |
| K. Comparable Cost/SSH | $519 | $519 | $519 | $519 | $519 | $519 |

Reviewed by campus VC for Administrative Affairs: UHM College of Engineering

(signature and date)
### Instructions

A. Headcount Enrollment: Headcount enrollment of majors each Fall semester. Located at URL: [http://www.hawaii.edu/iro/maps.php?category=Enrollment](http://www.hawaii.edu/iro/maps.php?category=Enrollment) Campus data may be used when majors are a subset of enrollment reported in IRO reports.

B. Annual SSH: Course Registration Report located at URL: [http://www.hawaii.edu/iro/maps.php?title=Course+Registration+Report](http://www.hawaii.edu/iro/maps.php?title=Course+Registration+Report) Add the SSH for the Fall and Spring reports to obtain the annual SSH. This is all SSH taught by the program, including to non-majors. Adjust if majors are subset of SSH reported.

C. **Instructional Cost without Fringe (automated calculation):** Direct salary cost for all faculty and lecturers teaching in the program. *Formula for column D: =IF(OR(D32<"",D34<>0),D32+D34,"") D10*  

D. **Total Program Cost/SSH: K + L** *Formula for column D: =IF(AND(D17<>"",D36<>""),D36+D31,"") D31*  

E. **Total Direct and Incremental Cost: C + D + E** *Formula for column D: =IF(OR(D13<"",D16<>0,D17<>0),SUM(D13,D16,D17),"") D13*  

F. **Total Campus Expenditure/SSH: Taken from UH Expenditures Report For example, 2009-2010: UHM = $923-131 (organized research) = $792, UHH = $682, UHWO = $501, HawCC = $408, HonCC = $505, KapCC = $316, KauCC = $703, LeeCC=$300, Maui CC = $396, WinCC=$457* [http://www.hawaii.edu/budget/expend.html](http://www.hawaii.edu/budget/expend.html)*  

G. **Net Cost: F - I** This is the net incremental cost of the program to the campus. A negative number here represents net revenue (i.e., revenue in excess of cost.) If there is a net cost, please explain how this cost will be funded. *Formula for column D: =IF(AND(D18<>"",D24<>""),D18-D24,"") D18*  

H. **Comparable Program/Division Instructional Cost/SSH: Taken from UH Expenditures Report (http://www.hawaii.edu/budget/expend.html) or campus data, as available. Please note in the space provided, the program used for the comparison.**  

### Formulas

- **Total Revenue:** G + H
- **Instructional Costs with Fringe:** (K2 + K4) / B
- **Support Cost/SSH:** The campus' non-instructional expenditure/ssh + systemwide support – organized research (UHM only) as provided by UH Expenditure Report
- **Net Cost:** F - I
- **Instructional Costs without Fringe:** (K1 + K3) / B
- **Other Personnel Cost:** Salary cost (part or full time) for personnel supporting the program (APT, clerical lab support, advisor, etc.) This includes personnel providing necessary support for the program who may not be directly employed by the program and may include partial FTEs. Add negotiated collective bargaining increases and 4% per year for inflation thereafter.
- **Unique Program Cost:** Costs specific to the program for equipment, supplies, insurance, etc. For provisional years, this would be actual cost. For established years, this would be projected costs using amortization for equipment and add 4% per year for inflation thereafter.
- **Total Direct and Incremental Cost:** C + D + E
- **Total Program Cost/SSH:** K + L
- **Total Campus Expenditure/SSH:** Taken from UH Expenditures Report For example, 2009-2010: UHM = $923-131 (organized research) = $792, UHH = $682, UHWO = $501, HawCC = $408, HonCC = $505, KapCC = $316, KauCC = $703, LeeCC=$300, Maui CC = $396, WinCC=$457

### Example Calculations

- **For example, from the 2010-11 UH Expenditure Report ([http://www.hawaii.edu/cgi-bin/iro/maps?esuhfy1011.pdf](http://www.hawaii.edu/cgi-bin/iro/maps?esuhfy1011.pdf)), the support expenditure/ssh per campus is:**
  - UHM: $507.00 + $56 - $128 for organized research = $435
  - UHH: $437.00 + $45 = $482
  - UHWO: $230.00 + $28 = $258
  - Haw CC: $155.00 + $34 = $189
  - Hon CC: $234.00 + $44 = $278
  - Kap CC: $123.00 + $29 = $152
  - Kau CC: $328.00 + $59 = $387
  - Lee CC: $123.00 + $27 = $150
  - Maui CC: $160.00 + $35 = $195
  - Win CC: $284.00 + $40 = $324
  - UHCC: $505 (KapCC = $316, KauCC = $703, LeeCC=$300, Maui CC = $396, WinCC=$457)