Notice of Meeting

UNIVERSITY OF HAWAI'I

BOARD OF REGENTS COMMITTEE ON ACADEMIC AND STUDENT AFFAIRS

Date: Thursday, March 24, 2016
Time: 2:00 p.m.
Place: Kapi'olani Community College
Ka 'Ikena Room, Ohelo Building
4303 Diamond Head Road
Honolulu, HI 96816

AGENDA

I. Call Meeting to Order

II. Approval of Minutes of the March 9, 2016 Meeting

III. Public Comment Period for Agenda Items: All written testimony on agenda items received after posting of this agenda and up to 24 hours in advance of the meeting will be distributed to the board. Late testimony on agenda items will be distributed to the board within 24 hours of receipt. Registration for oral testimony on agenda items will be provided at the meeting location 15 minutes prior to the meeting and closed once the meeting begins. Written testimony may be submitted via US mail, email at bor@hawaii.edu, or facsimile at 956-5156. Oral testimony is limited to three (3) minutes.

IV. Agenda Items

A. For Action

1. Recommend Approval of Provisional to Established Programs:
   a. Bachelor of Science (BS) in Marine Biology, College of Natural Sciences, University of Hawai‘i at Mānoa
   b. Associates in Science (ASVT) in Veterinary Technology, Windward Community College

B. For Information

1. Update on Board Policy Amendments Regarding Programs with Low Numbers of Graduates

V. Adjournment

Accommodation required by law for Persons with Disabilities requires at least (5) five days prior notice to the board office at 956-8213 or bor@hawaii.edu.
MINUTES

BOARD OF REGENTS’ COMMITTEE ON ACADEMIC AND STUDENT AFFAIRS
MEETING

MARCH 9, 2016

I. CALL TO ORDER

Committee Chair Lee Putnam called the meeting to order at 9:01 a.m. on Wednesday, March 9, 2016, at the University of Hawai‘i at Mānoa, Information Technology Building, 1st Floor Conference Room 105A/B, 2420 Correa Road, Honolulu, Hawai‘i 96822.

Committee members in attendance: Committee Chair Lee Putnam; Committee Vice Chair Michelle Tagorda; Board Vice Chair Eugene Bal; Regent Simeon Acoba; Regent Wayne Higaki; Regent Ernest Wilson, Jr.

Committee members excused: Regent David Iha.

Others in attendance: Board Chair Randy Moore; Regent Michael McEnerney (ex officio committee members); President David Lassner; Vice President for Academic Affairs Risa Dickson; Vice President for Administration Jan Gouveia; Vice President for Community Colleges John Morton; Vice President for Legal Affairs and University General Carrie Okinaga; UH-Hilo (UHH) Chancellor Donald Straney; Interim UH-West O‘ahu (UHWO) Chancellor Doris Ching; Windward Community College (WinCC) Chancellor Douglas Dykstra; Executive Administrator and Secretary to the Board Cynthia Quinn; and others as noted.

II. APPROVAL OF MINUTES OF THE JANUARY 14, 2016 MEETING

Regent Wilson moved to approve the minutes of the January 14, 2016 meeting, seconded by Regent Tagorda, and the motion carried unanimously.

III. PUBLIC COMMENT PERIOD

Executive Administrator and Secretary of the Board Cynthia Quinn announced that the Board Office received no written testimony, and no individuals had signed up to give oral testimony.

IV. AGENDA ITEMS

A. For Information

1. Workforce Development Presentation

VP Morton provided a PowerPoint presentation on Workforce Development. Highlights included focusing on UH’s current efforts towards developing a better strategic, coherent, comprehensive workforce information system and a network that shares
interest, information, and tools needed to gather and understand industry data interpretations to identify job demand gaps; increasing focus on current and future workforce needs, skill-set alignment to industry, demand in the State’s limited workforce environment, and calibration of a programs unique to Hawai’i, including those necessary but with low output programs; finding the right metrics to measure success to include both graduation and employment; sharing how the current data lacks classifications to accurately align with field and degree paths; and integration efforts utilizing USA Funds to include design and collaboration with the State of Hawai’i Department of Education (DOE) STEM sectors seeking similar data. The DOE is rebuilding its workforce system as part of a national initiative for primary education that will capture data needed by DOE, UH students, business and policy leaders.

He explained how UH community colleges are taking the lead on behalf of the UH system, in executing the infrastructure and program interfaces with two contractors: Economic Modeling Specialists International (Emsi), which gathers data from the federal government and other sources to analyze jobs, pay, and projections, and is an active feed of labor management information (LMI) data on a sector strategy basis, and Burning Glass Technologies (BGT), which provides real-time job market and skill sets data extracted from online recruitment, applications, and websites. New labor sector maps provide a high level overview of the scale of a particular sector, historic and projected national and local trends on the number of jobs, average salaries, and workforce demographics for both Hawai’i and the U.S. In addition, he reported on how UH has engaged Collaborative Economics to facilitate collaboration among industries to vet the data on an ongoing basis with assistance from Hawai’i Business Roundtable and the Chamber of Commerce.

It was explained how programs will be able to better manage programs and adjust with job market trends with improved graduate data tracking gathered by the UH Institutional Research & Analysis Office (IRAO) to incorporate projections, and outmigration and in-migration, and the State’s P-20 longitudinal data exchange that utilizes unemployment insurance data from the Department of Labor & Industrial Relations on employer quarterly earnings. The data will be accessible by students through STAR to research degree and career opportunities.

Sector maps are expected to be in place by spring, with filters available by fall. Convening will begin in August with industry-validated data for the three major sectors with the goal to complete by the end of the calendar year to prepare for discussions regarding long range planning, and ongoing maintenance and management of degree and certificate programs. Challenges were noted regarding inefficient retrieval of job placement data that is varied by economy and population; recognizing and validating the economic value of a liberal arts degree that prepares students for employment but does not lead to specific career; building a system that identifies career paths that incorporates short term certificate and job retraining; lack of data to better understand the import and export of students educated in Hawai’i.

Questions and comments were raised regarding ensuring trend comparison to national data; extent of public accessibility to the licensed data; integration of national data on knowledge, skills and abilities (KSAs); the extent to which this comprehensive
workforce information system can inform and facilitate a system-wide academic strategic plan; highlighting the importance of workforce readiness, and ensuring faculty input on the system being developed.

The committee was informed about ongoing discussions with the vendor on public accessibility of licensed data; difficulty in retrieving national data on KSAs, career and education advancement; unpredictability of workforce over a 6 year period hindering academic strategic planning; and efforts to ensure faculty input and engagement within the State’s industries as it serves program planning and review.

Public comment was taken and was in support of access to the data.

2. Status on Board Policy Amendments Regarding Programs with Low Numbers of Graduates

VP Dickson provided an update on board policy amendments regarding programs with low numbers of graduates and indicated that feedback is being collected, and the amended board policy will be brought forward at the next committee meeting.

No questions or comments were raised.

B. For Action

There being no objections from committee members, Committee Chair Putnam reordered the agenda to accommodate neighbor island presenters.

1. Recommend Approval of Provisional to Established Programs

b. Bachelors of Business Administration (BBA-A) in Accounting, College of Business and Economics, University of Hawai‘i at Hilo

Vice Chancellor for Academic Affairs Matt Platz requested the committee recommend board approval of the provisional to established status of Bachelors of Business Administration (BBA-A) in Accounting, College of Business and Economics, University of Hawai‘i at Hilo (UHH). Highlights included UHH data establishing demand for applied learning experiences in majors that directly correlate to jobs, and graduating job ready; background on the proposal to change the title of the degree to include accounting to address industry preference and employment demand. It was explained about how the BBA-A curriculum is standard, allows students to sit for the Certified Public Accounting (CPA) exam if desired, and enables a dual degree in place or transfer to UHM or another institution to pursue a master’s degree; and enrollment is high in number of community college transfers and student co-curricular engagement in accounting club and internship programs to facilitate employment opportunities.

Regent Wilson moved to recommend board approval of the provisional to established status of the BBA-A at UHH, seconded by Regent Acoba.
Questions and concerns were raised regarding duplication, significance of low CPA exam pass rates, whether the proposal as a marketing strategy to be responsive to the job market; and projections and budget plan for increased faculty costs.

It was confirmed how the proposal responds to the market preference; that accounting faculty throughout the UH System collaborate annually, with the support of their respective colleges, to coordinate articulation and course content and avoid duplication, with informal and formal agreements arising from those meetings; that UHH and UHM, the only programs accredited by the Association to Advance Collegiate Business Schools, coordinate content and currently exploring textbooks for introductory courses; and UHH provides many certifications in accounting, and the CPA designation is only required for public accounting, predominantly tax and audit. It was further reported that there are no immediate plans to increase faculty positions.

The motion having been moved and seconded, the motion was put to a vote and carried unanimously.

c. Master of Arts in Teaching (MAT) Degree Program, School of Education in the College of Arts and Sciences, University of Hawai‘i at Hilo

Chancellor Straney requested the committee recommend board approval of the provisional to established status of Masters of Arts in Teaching (MAT) Degree Program, School of Education in the College of Arts and Sciences, University of Hawai‘i at Hilo. In the interest of time, the presentation was waived and the floor was opened for questions.

Concern and comments regarded duplication, delay for proposal from provisional to established, accreditation status, and sufficiency of existing hybrid MEdT degree to meet demand.

It was explained how there is pent up demand for teachers, the MAT degree program replaced the post-graduate Teacher Education Program (TEP), is designed for teachers to receive licensure after one year, and earn a degree in the second year, that differs from the UHM programs that are delivered entirely in the Hawaiian language and entirely on-site as a professional development MEdT program. UHH delayed seeking established status for the program to accommodate the accreditation approval process. UHH received accreditation by the Hawai‘i Teacher Standards Board, and is awaiting the formal Teacher Education Accreditation Council accreditation report expected in one month, to send to the national commission.

Regent Wilson moved to recommend board approval of the provisional to established status of the MAT program at UHH, seconded by Regent Higaki, and the motion carried unanimously.

a. Bachelor of Science (BS) in Marine Biology, College of Natural Sciences, University of Hawai‘i at Mānoa

d. Associates in Science (ASVT) in Veterinary Technology, Windward Community College
Due to time constraints, Committee Chair Putnam deferred these items to the next committee meeting.

V. ADJOURNMENT

There being no further business, Chair Moore moved to adjourn, and Regent Higaki seconded, and with unanimous approval, the meeting was adjourned at 10:48 a.m.

Respectfully Submitted,

Cynthia Quinn
Executive Administrator and
Secretary of the Board of Regents
MEMORANDUM

TO: Randolph G. Moore  
Chair, Board of Regents

VIA: David Lassner  
President

VIA: Robert Bley-Vroman  
Interim Chancellor

FROM: Reed Dasenbrock  
Vice Chancellor for Academic Affairs

SUBJECT: APPROVAL OF ESTABLISHED STATUS FOR PROVISIONAL BS IN MARINE BIOLOGY IN THE COLLEGE OF NATURAL SCIENCES AT THE UNIVERSITY OF HAWAI‘I AT MĀNOA

SPECIFIC ACTION REQUESTED:  
It is requested that the Board of Regents approve established status for the provisional BS in Marine Biology in the College of Natural Sciences at the University of Hawai‘i at Mānoa.

RECOMMENDED EFFECTIVE DATE:  
Upon Board approval.

ADDITIONAL COST:  
No additional resources are needed. All program needs will be met using internal resources within the Biology Department and the College of Natural Sciences.

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

BACKGROUND:  
Board of Regents’ Policy 5-1 confers upon the Board the authority to grant established status to provisional degree programs. University of Hawai‘i Executive Policy E5.201 requires that requests for a change from provisional to established status respond to the questions in Appendix D of the policy. This response is presented in the attached document.
Significance/Contribution of this Degree:
The Board of Regents provisionally approved the UH Mānoa Bachelor of Science in Marine Biology in 2002. The primary objective of the degree is to provide students with rigorous, high quality training in biology and a broad exposure to Marine Biology. The program has been very successful and has proved even more attractive to students than anticipated: the number of declared majors climbed rapidly and is now around 350, accounting for more than one fourth of all majors in the Biology Department. The success of the program is easy to understand: Our island setting and the expertise of our faculty combine to provide opportunities for undergraduate study in marine biology unrivaled in the country. Readily accessible marine environments and two UH Mānoa marine laboratories provide unique opportunities for hands-on field and laboratory training in research and environmental methodologies. A long tradition of world-class scientific marine research by UH Mānoa faculty contributes to an excellent learning environment.

Cost and resource allocation/reallocation implications:
Additional resources are not needed to support this program. Increases in instructional FTE and Teaching Assistants will be handled within the Biology Department and the College of Natural Sciences. The Marine Biology curriculum builds upon the core curriculum of the BS in Biology degree to provide a strong foundation in the biological sciences. As a result, many of the core courses are also required by the general Biology degree, along with other degrees on campus, which contributes to the program’s efficiency. The costs of the program are estimated to reach $285,000 by 2020, while the tuition revenue is over $1.7 million. Information regarding program costs may be found in the proposal.

Demand projections: Current enrollment in the program is 350, and we anticipate that the demand for the program will remain stable.

Accreditation impact (if any): The program is not professionally accredited.

Examples (2-3) of similar models from peer institutions:
Of UH Mānoa's designated 'peer' institutions, only the University of South Florida (Tampa) offers a Marine Biology degree, while Oregon State University (Corvallis) offers a Marine Biology option with its Biology degree. Other universities with BS degrees in Marine Biology include the University of Oregon (Eugene) and the University of North Carolina—Wilmington. The USF and OSU degrees require more total credits than does the UH Mānoa degree. In the related required courses, the UH Mānoa degree requires one year of calculus plus one semester of statistics while most other degrees require either one year of calculus or one semester each of calculus and statistics. Conversely, several of the other degrees require a year of organic chemistry and some require biochemistry, while the UH Mānoa degree does not require biochemistry or the second semester of organic chemistry. Otherwise the requirements for all these programs are
generally similar except that the UH Mānoa degree appears to be unique in requiring both a research experience and a capstone seminar.

Similar Programs at other UH campuses (if there is duplication, why is this program necessary): There is no program duplication within the UH System. Of the ten UH campuses, only UH Mānoa offers an undergraduate degree in Marine Biology. UH Hilo offers both BA and BS degrees in Marine Science, neither of which is equivalent to the Marine Biology BS program at UH Mānoa. UH Mānoa’s Marine Biology degree is an intensive and focused program in biology, while UH Hilo’s Marine Science degrees are much broader with less biological content.

Statement from campus administration of the program’s strategic value within UH priorities. One of the areas in which UH Mānoa clearly excels is Marine Biology, part of a larger commitment to marine science and technology that is central to Natural Sciences, SOEST and much of CTAHR, Engineering. This program is also one of our largest draws for out of state students, an increasing part of our budget picture as well as educational mission, as students recognize the unique opportunities in Hawai‘i for students in this field.

Impact of program change request on campus budget allocations and mission priority. There are no additional costs associated with the request for established status.

ACTION RECOMMENDED:
It is recommended that the Board of Regents approve established status for the provisional BS in Marine Biology in the College of Natural Sciences at the University of Hawai‘i at Mānoa.

Attachments

c: Vice President for Academic Affairs Risa Dickson
Executive Administrator and Secretary of the Board Cynthia Quinn
Interim Dean of Natural Sciences Kristin Kumashiro
Chair of Biology Andrew Taylor
Review of Provisional Academic Program to Established Status

Bachelor of Science (B.S.) degree in

Marine Biology

Department of Biology
College of Natural Sciences
University of Hawai‘i at Mānoa

February 2016

Prepared by:
Dr. Stuart Donachie, Microbiology
Dr. Mark Hixon, Biology (Committee Chair)
  Dr. Cynthia Hunter, Biology
Dr. Stephanie Kraft-Terry, Biology
  Dr. Peter Marko, Biology
  Dr. Amy Moran, Biology
  Dr. Celia Smith, Botany
Dr. Andrew Taylor, Biology (Biology Chair)
  Dr. Timothy Tricas, Biology
Introduction

This document reviews the provisional academic program instituted as “Marine Biology” at the University of Hawai‘i at Mānoa (UHM). This program initially was administered by the Biology Program and now is part of the Department of Biology, which was formed by the merger of the Biology Program and the Department of Zoology.

The provisional Bachelor of Science in Marine Biology program was approved in 2002. The delay in proposing transfer from provisional to established status has been due to the rapid growth of this popular major, which has required ongoing adjustments of both the curriculum and the resources devoted to the program. Enrollments appear to have leveled off recently so that we can now project costs and revenues reasonably confidently. The major administrative reorganization required by the merger of the Biology Program and Department of Zoology to create the Department of Biology and the disruption caused by the renovation of Edmondson Hall and resulting temporary relocation of Biology faculty and staff also contributed to the delay in this request for established status.

Synopsis

The Marine Biology B.S. degree program has been very successful. It has proved even more attractive to students than anticipated: the number of declared majors climbed rapidly and now is around 350, accounting for more than one fourth of all majors in the Biology Department. Graduates have fared well both in the job market and in pursuing further education in marine biology, and have indicated high levels of satisfaction with the degree.

This success is easy to understand: Our island setting and the expertise of our faculty combine to provide opportunities for undergraduate study in marine biology unrivaled in the country. Readily accessible marine environments and two UHM marine laboratories provide unique opportunities for hands-on field and laboratory training in research and experimental methodologies. A long tradition of world class scientific marine research by UHM faculty contributes to an exciting learning environment.

Faculty from the UHM Departments of Biology, Botany and Microbiology contribute to the Marine Biology curriculum, providing the breadth essential to this interdisciplinary program. Through coursework and research experiences, the program provides students with a solid foundation in general biology and related fields (chemistry and mathematics), together with a rigorous upper-division curriculum focused on biology in the marine environment.

Because of its popularity the Marine Biology program also is very successful financially: the tuition generated by program – most of it from students drawn to UHM specifically by their interest in marine biology -- far exceeds the costs of providing it.
SPECIFIC POINTS FOR ASSESSMENT OF PROVISIONAL TO ESTABLISHED PROGRAMS

(1) Is the program organized to meet its objectives? (Discussion of curriculum, requirements, admissions, advising and counseling, and other aspects of the program, with reference to its objectives.)

Objectives

The primary objective of the BS degree in Marine Biology at UHM is to provide students with rigorous, high quality training in biology and a broad exposure to marine biology. This degree is intended to prepare some students for graduate training in marine biology, and also to provide preparation for other employment opportunities for students who see the BS as their terminal degree. This degree utilizes Hawai‘i’s unique island state location and remarkable tropical marine resources to provide a challenging place-based education. Students in this degree have access to a supportive educational environment. Examples of careers and educational paths BS Marine Biology graduates pursue include:

- Graduate programs in marine biology and related disciplines
- K-12 teaching in marine biology and biology
- Employment with government, non-government and private agencies in areas including marine resource management, environmental consulting, monitoring, and aquaculture, as well as public education, outreach, and ecotourism.

Curriculum

Below is the current curriculum for a BS degree in Marine Biology.

Curriculum--Course Requirements, 2015-2016
Bachelor of Science Degree in Marine Biology
Requirements (includes Major Related): 89 - 91 credits
(All courses require a “C” Grade minimum, not “C-”)
*Overall UHM Major GPA MUST be maintained at 2.5

A. Marine Biology Core Courses (26 credits)
- BIOL 171 & 171L Introduction to Biology I & Lab (3/1)
- BIOL 172 & 172L Introduction to Biology II & Lab (3/1)
- BIOL 265 & 265L Ecology & Evolutionary Biology & Lab (3/1)
- BIOL 275 & 275L Cell & Molecular Biology & Lab (3/1)
- BIOL 301 & 301L Marine Ecology and Evolution & Lab (3/2)
- BIOL 375 & 375L Concepts of Genetics & Lab (3/2)

B. Additional Required Courses (19 credits)
- OCN 201 Science of the Sea (3)
- BOT 480 Algal Diversity and Evolution (4)
- ZOOL 475 & 475L Biology of the Invertebrates & Lab (3/2)
- MICR 401 & 401L Marine Microbiology & Lab (3/1)
- BIOL 404 Advanced Topics in Marine Biology (3)

C. Related Requirements (31-33 credits)
- MATH 215 Applied Calculus I (or 241 or 251A) (4)
- MATH 216 Applied Calculus II (or 242 or 252A) (3)
- ECN 321 (DS) Introduction to Statistics (or NREM 310, or SOCS 225) (3)
- CHEM 161 & 161L General Chemistry I & Lab (3/1)
- CHEM 162 & 162L General Chemistry II & Lab (3/1)
- CHEM 272 & 272L Organic Chemistry I & Lab (3/2)
- PHYS 151 & 151L College Physics I & Lab (or PHYS 170/L) (3/1)
- PHYS 152 & 152L College Physics II & Lab (or PHYS 272/L) (3/1)

D. Directed Research (4 credits)
- BIOL 499 Biological Problems or BIOL 403 Field Problems in Marine Biology

E. Elective Courses – (9 credits from the Approved Electives list)
- BIOL 402 Principles of Biochemistry (or BIOC 441) (4)
- BIOL 331/331L Marine Mammal Biology/Lab (3/2)
- BIOL 390 Communicating In Biological Sciences (3)
- BIOL 402 Principles of Biochemistry (or BIOC 441) (4)
- BOT 456 Plant-Animal Interactions (3)
- BOT 420 Functional Form of Plants (4 lecture / lab)
- MATH 304 Mathematical Modeling (4)
- MATH 305 Mathematical Modeling (4)
- MICR 485/485L Microbes and Their Environment/Lab (3/2)
- MICR 490/490L Animal Virology/Lab (3/2)
- OCN 310/310L Global Environmental Change/Lab (3/2)
- OCN 320 Aquatic Pollution (3)
- OCN 331 Living Resources of the Sea (3)
- OCN 450 Aquaculture Production (3)
- ZOOL 306/306L Ethology/Lab (2/1)
- ZOOL 320/320L Vertebrate Zoology/Lab (3/2)
- ZOOL 340/340L Parasitology/Lab (2/2)
- ZOOL 410 Corals and Coral Reefs (3)
- ZOOL 420 Developmental Biology (3)
- ZOOL 430/430L Animal Physiology/Lab (3/2)
- ZOOL 432 Comparative Physiology (3)
- ZOOL 439 Animal Ecology
- ZOOL 439L Animal Ecology Lab (2)
• ZOOL 465/465L General Ichthyology (3/1)
• ZOOL 466 Fisheries Science (3)
• ZOOL 467 Ecology of Fishes (3)
• ZOOL 470/470L Limnology/Lab (2/1)
• ZOOL 480 Animal Evolution (3)

Requirements

The introductory core and related-course requirements are similar to those of the BS degree in Biology. The main difference is intensive training in four additional upper-level marine biology courses that give students breadth and depth in this discipline (see below). Also, four credits in a field immersion course or directed research are required for graduation.

Two upper division courses, Marine Ecology and Evolution (BIOL 301/L) and Marine Microbiology (MICR 401/L) were developed for the Marine Biology major, to reinforce the basics of marine organismal biology, evolution, and ecology. These and other existing marine biology courses provide opportunities for independent study, creativity, and development of technical communication skills.

A field immersion course entitled Field Problems in Marine Biology (BIOL 403) provides students with an intensive learning experience in marine field settings. The site for this immersion course is at the Hawai‘i Institute of Marine Biology (HIMB) at Coconut Island in Kāne‘ohe Bay.

The capstone course, entitled Advanced Topics in Marine Biology (BIOL 404), is designed to train students in critical thinking and synthesis by presenting, discussing, and analyzing complex subjects in marine biology in an interactive, student-based, small-group format. In this course students integrate and apply the knowledge and skills they have acquired throughout the marine biology curriculum and develop and practice oral and written communication skills.

Admissions

At present there are no specific or additional requirements for admission to this major beyond the general UHM requirements.

We are considering requiring satisfactory completion of the lower-division core curriculum, including related-required courses in chemistry and mathematics, before students can declare as Marine Biology majors. This would allow us to better predict enrollments in the upper-division core courses and also would lessen the problem of some students taking a very long time to obtain the degree due to having to repeat some of the core courses. Such a change would reduce the number of Marine Biology majors, with a concomittent increase in the number of Biology majors, but should have much less of an effect on the number of Marine Biology degrees awarded, since currently students who struggle in the core and related-required
courses often switch out of the Marine Biology degree. Although the details of this plan remain to be determined, we expect to propose the program change in the coming fall semester.

Advising

Academic advising is provided by the advising office of the Department of Biology. Since summer 2014 the office has been responsible for all academic advising of Marine Biology majors, as well as Biology, Botany, Microbiology, Molecular Cell Biology, and Zoology majors. In fall 2014 the Department of Biology advising office assumed all college-level advising responsibilities from the Colleges of Arts and Sciences Student Academic Services. The advising office currently is comprised of three professional advisors (one faculty Specialist and two APTs), four Manoa Peer Advisors, and one student assistant. These advisors track the progress of these students with a focus on the 15 to finish campaign, match individual students’ academic strengths with opportunities within the curriculum, and nurture students’ intellectual and personal development. Specifically marine-focused academic and career mentoring also is provided on an individual basis by Marine Biology faculty from the Departments of Biology, Botany, and Microbiology, and through the Marine Option Program (MOP).

The Department of Biology provides other sources of student support and guidance which, while not restricted to Marine Biology students or directly part of the Marine Biology curriculum, largely serve Marine Biology students. First and foremost of these is the Marine Option Program (MOP). Participation in MOP is not required of Marine Biology majors but approximately 25% of MB students participate in MOP. MOP provides a certificate and strengthens research, internship, and job placement opportunities for MOP students. MOP has a network of faculty and offices on all UH campuses. The experiential education provided by MOP through placement of students into federal, state, and local internships and research projects provides students opportunities to acquire knowledge and skills that are not part of curricula at other universities. MOP prepares students for QUEST (Quantitative Underwater Ecological Survey Techniques) based at UH-Hilo, and MAST (Maritime Archaeology Survey Techniques) offered at UH-Mānoa. MOP also conducts courses to train students in safe boating practices through the Motorboat Operators Certification Course, and Marine Underwater Techniques with the National Marine Fisheries Service. The UH Mānoa MOP Coordinator works closely with MOP Coordinators throughout the UH system to ensure transfer students from UH-Hilo, UH-Maui College, UH-West Oahu, and the community colleges receive appropriate support upon coming to UHM.
(2) Is the program meeting its learning objectives for students? (An assessment of the quality of student learning as indicated by systematic analysis of student performance with reference to standard expectations, surveys of student satisfaction with instructional aspects of the program, etc.)

Although program Student Learning Outcomes (SLOs) were created years ago by the Department of Biology, no program-level assessment was performed until recently. In June 2012 Dr. Stephanie Kraft-Terry was hired as a Faculty Specialist to oversee advising and assessment for the Department of Biology. The program SLOs, which are for all undergraduate degrees in the department, were revised by the faculty in June 2013. Faculty then were asked at a December 2013 workshop to map how their course SLOs aligned with the program SLOs (see map below).

**Undergraduate Student Learning Outcomes**

**Biological Knowledge: Synthesis and Application**

Student will be able to:

1. Explain biological processes from molecules to ecosystems in an evolutionary context, including being able to use examples from Hawai‘i.

**Critical Thinking and Reasoning Skills**

Student will be able to:

2. Demonstrate scientific literacy by critically evaluating scientific evidence, identifying gaps in knowledge, and applying strong evidence-based biological arguments to real-world problems.

3. Apply the scientific method to generate new hypotheses, formulate experimental approaches and outline potential outcomes, applying appropriate logical and quantitative methods.

**Values**

Student will:

4. Demonstrate inquisitiveness regarding, and respect for, the biological world.

5. Work ethically, individually and in teams, and demonstrate respect for diversity of viewpoints.

**Communication skills**

Student will:

6. In oral and written forms, be able to communicate biological information clearly and professionally.
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<td>BIOL 301 Marine Ecology and Evolution</td>
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<td>R</td>
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<td>BIOL 301L Marine Ecology and Evolution Lab</td>
<td>R</td>
<td>R</td>
<td>R</td>
<td>R</td>
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<tr>
<td>BIOL 375 Concepts of Genetics</td>
<td>R</td>
<td>R</td>
<td>R</td>
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<td>BIOL 375L Concepts of Genetics Lab</td>
<td>R</td>
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<td>R</td>
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<td>MICR 401 Marine Microbiology</td>
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<td>M</td>
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<td>MICR 401L Marine Microbiol. Lab</td>
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<tr>
<td>BOT 480 Algal Diversity and Evolution</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td>M</td>
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<tr>
<td>ZOOL 475 Biology of the Invertebrates</td>
<td>M</td>
<td>A</td>
<td></td>
<td>M</td>
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<tr>
<td>ZOOL 475L Biology of the Invertebrates Lab</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td></td>
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<tr>
<td>BIOL 404 Advanced Topics in Marine Biology</td>
<td>M,A</td>
<td>M,A</td>
<td>M,A</td>
<td>M,A</td>
<td></td>
<td></td>
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</table>

Key: I-Introduce, R-Review, M-Master (assessment point)

Assessment

We now are assessing one or two SLOs each year and are using those results to improve the program through curricular modification. A summary of our recent assessment activities is found below.

In May 2014 the Department of Biology Curriculum Committee assessed SLO 6W (written communication). Using the Association of American Colleges and Universities (AAC&U) Values Written Communication rubric, the Curriculum Committee scored 17 writing assignments from Advanced Topics in Marine Biology (BIOL 404). The rubric assesses student writing in 5 major categories. The committee decided that 75% of the students must meet or exceed the benchmark set by the Curriculum Committee in any given area to consider the area mastered. The percentages of students that met or exceeded the benchmark were:

- Context and Purpose – 75%
- Content Development – 35%
- Genre and Disciplinary Conventions – 58%
- Sources and Evidence – 71%
- Control of Syntax and Mechanics – 35%

The Department of Biology Curriculum Committee reevaluated the core curriculum to determine what improvements could be made to ensure student were better writers by the time they reach their capstone, BIOL 404 course. The Introduction to Biology I Laboratory (BIOL 171L) curriculum was recently revised to emphasize basic scientific writing skills. This curriculum was implemented during Fall 2013, so it is too early to assess the effects on
performance in BIOL 404. We are confident that improvements in BIOL 171L, coupled with continued reinforcement of scientific writing skills in later laboratory courses such as **Ecology and Evolutionary Biology Laboratory** (BIOL 265L), which is now writing intensive, will improve student writing skills and significantly impact their assessment scores in future years. Most recently, in spring semester of 2015 the Curriculum Committee assessed SLO 1 to analyze how well students were able to link factual information together in an evolutionary context within **Biology of the Invertebrates** (ZOO 475). Assignments for all eleven Marine Biology majors in the course were evaluated. In total, seven out of the eleven were able to satisfactorily complete the task. The committee required that 70%, or 8 out of the 11 must meet the benchmark for the learning outcome to be successful. Because the results fell just below the minimum acceptable outcome, we are planning to create a working group of the instructors of the relevant courses to determine how we can further incorporate these concepts throughout the curriculum to improve student learning for SLO 1.
(3) Are program resources adequate? (Analysis of the number and distribution of faculty, faculty areas of expertise, budget and sources of funds, and facilities and equipment.)

The number of Marine Biology majors has grown rapidly and now stands at about 350 students. The upper-division marine biology curriculum is served by eight core faculty from three departments as well as numerous other contributing faculty from diverse departments and colleges within UH (see table below). The large number of majors has required expansion of several lecture and lab sections in required courses as well as of opportunities for students to fulfill the research requirement, as outlined below.

Faculty and Facilities

The BS degree in Marine Biology has attracted a large number of local, US mainland and international students who are interested in studying marine biology. The number of Marine Biology majors had passed 350 by the Fall 2013 semester, and appears to have stabilized at roughly that level. This is well more than double the 160 students originally projected to be enrolled in the program’s 5th year, and is about 40% of the BS majors in the Department of Biology (including Zoology) and nearly 30% of all the majors enrolled in the Department of Biology as a whole (BS and BA students).

Instruction for these students is supported by faculty and teaching assistants from the Departments of Biology, Botany and Microbiology, instructional staff (APT) from the Department of Biology, equipment and supplies from the Department of Biology and the College of Natural Sciences (CNS), and research space and facilities on the UH Mānoa campus. Research facilities and faculty oversight of research projects were also provided by the Kewalo Marine Laboratory (PBRC), the Hawai’i Institute of Marine Biology (SOEST), the Center for Microbial Oceanography: Research and Education (C-MORE), the College of Tropical Agriculture and Human Resources (CTAHR), and numerous other departments at UHM.

Below is a summary of the faculty resources provided for the degree and currently available to support it.

**Marine Biology Teaching Faculty:** Four new faculty positions were created in 2002 by CNS to teach the required courses for the Marine Biology major. These include two in the Department of Biology to teach Marine Ecology and Evolution (BIOL 301/L) and Field Problems in Marine Biology (BIOL 403), one in the Department of Botany to teach Algal Diversity and Evolution (BOT 480) and one in the Department of Microbiology to teach Marine Microbiology (MICRO 401/L). These faculty helped develop these courses and handled multiple sections of the required Marine Biology capstone course Advanced Topics in Marine Biology (BIOL 404).

Faculty currently involved with the Marine Biology undergraduate program are listed in the table below. These include the faculty who teach the four courses listed above, faculty who
teach other required and elective courses for Marine Biology majors, and additional Biology faculty with expertise in the field who contribute to teaching courses in the major.

Faculty involved in teaching courses for the Marine Biology undergraduate degree program, excluding the Biology Core Courses and Related Requirements courses.

<table>
<thead>
<tr>
<th>Name</th>
<th>Department</th>
<th>Expertise</th>
<th>Teaching Duties</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Core Faculty</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S. Donachie</td>
<td>Microbiology</td>
<td>Marine microbiology</td>
<td>MICR 401/L: Marine microbiology (R) BIOL 404 (R)</td>
</tr>
<tr>
<td>M. Hixon</td>
<td>Biology</td>
<td>Marine ecology &amp; conservation biology</td>
<td>MBIO 715: Marine Conservation Biology (E for Honors students) BIOL 404 (R)</td>
</tr>
<tr>
<td>C. Hunter</td>
<td>Biology</td>
<td>Coral reef ecology</td>
<td>BIOL 403: Field Problems in Marine Biology (R) BIOL 404 (R)</td>
</tr>
<tr>
<td>P. Marko</td>
<td>Biology</td>
<td>Marine ecology &amp; evolution</td>
<td>BIOL 301/L (R) BIOL 404 (R)</td>
</tr>
<tr>
<td>A. Moran</td>
<td>Biology</td>
<td>Larval biology</td>
<td>BIOL 404 (R) ZOOL 475/L (R)</td>
</tr>
<tr>
<td>A. Sherwood</td>
<td>Botany</td>
<td>Aquatic algae</td>
<td>BIOL 404 (R)</td>
</tr>
<tr>
<td>C. Smith</td>
<td>Botany</td>
<td>Marine plant biology</td>
<td>BOT 480 (R)</td>
</tr>
<tr>
<td>L. Watling</td>
<td>Biology</td>
<td>Deep sea marine life</td>
<td>BIOL 404 (R)</td>
</tr>
<tr>
<td><strong>Contributing Faculty</strong></td>
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<td></td>
</tr>
<tr>
<td>R. Alegado &amp; E.</td>
<td>Oceanography</td>
<td>Oceanography</td>
<td>OCN 320: Aquatic Pollution</td>
</tr>
<tr>
<td>DeCarlo</td>
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<td></td>
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<tr>
<td>J. Bailey-Brock</td>
<td>Biology</td>
<td>Invertebrate zoology</td>
<td>ZOOL 475: Biology of the Invertebrates (R)</td>
</tr>
<tr>
<td>K Barton</td>
<td>Botany</td>
<td>Plant biology</td>
<td>BOT 420: Functional Form of Plants (Lecture and Lab) (E)</td>
</tr>
<tr>
<td>Name</td>
<td>Department</td>
<td>Course</td>
<td>Course Details</td>
</tr>
<tr>
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<td>----------------------------------------------------</td>
</tr>
<tr>
<td>P. Bienfang</td>
<td>Oceanography</td>
<td>Oceanography</td>
<td>OCN 331: Living Resources of the Sea (E)</td>
</tr>
<tr>
<td>M. Butler</td>
<td>Biology</td>
<td>Animal evolution</td>
<td>ZOOL 430/430L: Animal Physiology and Lab (E)</td>
</tr>
<tr>
<td>K. Cole (Chair of Biology)</td>
<td>Biology</td>
<td>Ichthyology</td>
<td>ZOOL 465 &amp; 465L: General Ichthyology (E)</td>
</tr>
<tr>
<td>C. Daehler</td>
<td>Botany</td>
<td>Plant biology</td>
<td>BOT 456: Plant Animal Interactions (E)</td>
</tr>
<tr>
<td>L. Freed</td>
<td>Biology</td>
<td>Avian ecology</td>
<td>ZOOL 320/320L: Vertebrate Zoology and Lab (E)</td>
</tr>
<tr>
<td>D. Ho &amp; M. Mottl</td>
<td>Oceanography</td>
<td>Oceanography</td>
<td>OCN 310/310L: Global Environmental Change (E)</td>
</tr>
<tr>
<td>M. Lammers &amp; L. Munger</td>
<td>HIMB</td>
<td>Marine mammals</td>
<td>BIOL 331/L: Marine Mammals and Lab (E)</td>
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<tr>
<td>J. Lemus</td>
<td>HIMB</td>
<td>Marine Education</td>
<td>BIOL 390: Communication In Biological Sciences (E)</td>
</tr>
<tr>
<td>S. Malecha</td>
<td>Animal Sciences</td>
<td>Animal aquaculture</td>
<td>ANSC 450: Aquaculture Production (E)</td>
</tr>
<tr>
<td>T. Tricas</td>
<td>Biology</td>
<td>Marine animal behavior</td>
<td>ZOOL 306 &amp; 306L: Ethology (E)</td>
</tr>
<tr>
<td>R. Thompson</td>
<td>Biology</td>
<td>Evolutionary biology</td>
<td>ZOOL 480: Animal Evolution (E)</td>
</tr>
<tr>
<td>J. Walguarnery</td>
<td>Biology</td>
<td>Instructor</td>
<td>ZOOL 439: Animal Ecology (E)</td>
</tr>
<tr>
<td>L. Wilson Y. Milenko A. Castelfranco</td>
<td>Math/PBRC</td>
<td>Math modeling</td>
<td>MATH 304: Deterministic models (E) MATH 305: Probabilistic Models (E)</td>
</tr>
<tr>
<td>C. Womersley</td>
<td>Biology</td>
<td>Parasitology</td>
<td>ZOOL 340/340L: Parasitology (E)</td>
</tr>
<tr>
<td>A. Wright</td>
<td>Biology</td>
<td>Ecology</td>
<td>ZOOL 439: Animal Ecology (E)</td>
</tr>
<tr>
<td>M. Yoshizawa</td>
<td>Biology</td>
<td>Developmental biology</td>
<td>ZOOL 420/420L: Developmental Biology (E)</td>
</tr>
</tbody>
</table>

*Marine Biology Faculty and Staff Resources:* The popularity of the Marine Biology major has necessitated substantial increases in the capacity of its required courses. For example, the required course **Biology of the Invertebrates** (ZOOL 475 and 475L) was previously offered with
only one lab section, limiting enrollment to 20 students per year. Since Fall 2013, however, this course has been taught every semester with multiple lab sections, tripling the annual capacity. Similarly, the capstone course (BIOL 404) now is taught each semester rather than once per year, and a third offering each year may be added as the number of Marine Biology seniors grows. The growing number of Marine Biology majors also has contributed to the demand for the core courses taken by all Biology majors, which has necessitated increases in the sections of these courses as well. These increases in instructional offerings have been accommodated by the hiring of new faculty as noted above, by shifts in the teaching assignments of other faculty, and by hiring of additional teaching assistants; these additional resources have been provided by the College of Natural Sciences.

In addition, Marine Biology majors are required to have formal research experience by completing either Field Problems in Marine Biology (BIOL 403) or four units of Directed Research (BIOL 499). The BIOL 403 course is taught only in the summer and is limited to 16 students, meaning many Marine Biology majors need to complete directed research projects (BIOL 499) to complete their research requirement. The Biology Department currently is working with faculty in related units to increase research opportunities for all our students, including Marine Biology majors, and also is considering creating an undergraduate course in Biology Research that would be offered each semester and satisfy this research requirement.

Academic advising for Marine Biology students is pooled with advising for all Biology majors and is currently adequate. A Faculty Specialist coordinates (1) the advising of majors, (2) the development of informational brochures for potential local, mainland and international students, and (3) an outreach program to engage other campuses in the UH system, and the community.

Budget

There is no explicit budget for the undergraduate Marine Biology program since it is one of several degree programs provided by the Biology Department and many of the costs are shared among these programs. How we attributed costs and revenue to the Marine Biology program is explained in the Appendix, accompanying the Academic Program Cost and Revenues Template.

The Academic Program Cost and Revenues Template shows that tuition revenue attributable to Marine Biology majors far exceeds the cost of courses specific to the major. Although the total number of Marine Biology majors appears to have stabilized, enrollments in the upper-division courses are expected to continue to increase somewhat over the next few years, as indicated in the Cost and Revenues Template. Even with the resulting increase in expenses, however, the program will continue to generate much greater revenue than expenses.
(4) Is the program efficient? (An assessment of productivity and cost/benefit considerations within the overall context of campus and university mission and planning priorities. Include quantitative measures comparing, for example, SSH/faculty, average class size, cost per SSH, and cost per major with other programs in the college, on the campus, and as appropriate, similar programs on other UH campuses.)

The Marine Biology curriculum builds upon the core curriculum of the BS Biology degree to provide a strong foundation in the biological sciences and then expands into more marine-specific content at the upper level. As a result, many of the core courses in the Marine Biology curriculum are also required by the general Biology degree, along with other degrees on campus. In total, four courses were created or upgraded for the Marine Biology undergraduate degree: Marine Ecology and Evolution (BIOL 301/L), Algal Diversity and Evolution (BOT 480), Marine Microbiology (MICR 401/L), and Advanced Topics in Marine Biology (BIOL 404). Of these courses, only BIOL 404, the capstone course for the degree, is restricted to Marine Biology majors, but Marine Biology majors comprise a majority of students enrolled in the other three courses as well. These are the courses we accounted for when calculating our program costs.

Currently the Marine Biology degree costs (excluding fringe) are around $250,000 per year, while the tuition revenue is over to $1.7 million. In the next few years, costs are expected to increase slightly as retention within the major improves and enrollments in the upper-division courses grow. With the addition of more laboratory sections, we project the need for additional teaching assistants. More sections of the capstone course (BIOL 404) also may be needed, increasing the faculty FTE assigned to the degree. These projections are outlined in the Projected Years of the Academic Program Cost and Revenue Template (Appendix). When accounting for predicted growth, the cost of the program grows to only $285,000 by the 2019-20 academic year, with revenue projected to increase to nearly $2 million. The increased number of teaching assistants will be funded from the College while an increase in offerings of BIOL 404 will be accommodated by shifting faculty teaching assignments.

The Academic Program Cost and Revenues Template projects income and expenses out to the 2019-20 academic year. The projected instructional cost per student semester hour (SSH) during 2019-20 is $47, assuming an enrollment of 350 majors. A narrative explaining the Cost and Revenues Template may be found in the Appendix.

The Academic Program Cost and Revenues Template provides a detailed comparison between the undergraduate program in the College of Tropical Agriculture and Human Resources (CTAHR) and the undergraduate Marine Biology program. The instructional cost per student semester hour (SSH) in Marine Biology ranges from about one-quarter to one-third that in CTAHR. At the lower-division level, Marine Biology majors typically take the same courses as Biology majors, so the key efficiency measures are at the upper-division level.

As enrollment has increased, we have increased the number of upper-division laboratory course sections in an effort to maintain a maximum enrollment per section of 20 students. The
increased cost of adding laboratory sections is largely due to adding teaching assistantships, 
*e.g.*, in spring 2014 MICR 401/L doubled the number of sections that had been offered 
previously, and this required an additional teaching assistant. Corresponding lecture sections 
have grown in enrollment without increasing the number of sections. However, *Advanced 
Topics in Marine Biology* (BIOL 404) is a writing intensive course and is therefore capped at 20 
students per section. For this course, the number of sections has steadily increased to 
accommodate increasing enrollment in the Marine Biology major. Similarly, *Algal Diversity 
and Evolution* (BOT 480/L) is also writing intensive, and has added more sections to 
accommodate the increased enrollment by Marine Biology majors. The increased cost of adding 
BIOL 404 sections arises from both increased faculty teaching time and assignment of teaching 
assistants to this course; the increased cost of adding BOT 480 sections is from increased 
numbers of teaching assistants.

At present, while resources have been strained by the larger-than-expected enrollment in the 
degree, the modifications to the curriculum and shifts in faculty teaching assignments described 
above have allowed us to meet the needs of the program. We also are actively exploring ways to 
make more efficient use of current resources and obtain additional resources (*i.e.* external 
funding for BIOL 403, and recruitment of additional faculty and non-UH researchers to mentor 
Directed Research projects). We also are considering instituting admissions requirements to the 
major, as described in Section (1) above, which would help us regulate and predict enrollments 
in the upper-division courses.
Evidence of program quality. (A qualitative assessment of the program in relation to competing demands for resources by new programs and continuing programs. Accreditation or other external evaluation, student performance [e.g., on external exams], satisfaction, placement and employer satisfaction, awards to faculty and students, faculty publication record, evaluation of faculty, etc.)

The Department of Biology maintains a database of the activities of the 103 students who completed a BS degree in Marine Biology at UH Mānoa between 2005 and 2013. Of 49 alumni who have reported their post-graduation activities:

- 33, or 67% attended graduate school, 24 in masters programs (all working on MS degrees except for one MEd degree) and 9 in doctoral programs (7 working on PhD degrees in Natural Sciences, and 2 on veterinary degrees). Graduate schools attended were:
  - California State University at Long Beach
  - Florida State University
  - Georgia Institute of Technology
  - Texas A&M
  - Tufts University
  - University of Calgary
  - University of California at Riverside
  - University of Central Florida
  - University of Colorado at Denver
  - University of Hawai'i at Mānoa
  - University of Melbourne

- 14, or 29% were employed, most positions being associated with marine biology. Employers included:
  - Alaskan Observers Inc.
  - Arbonne International Independent Consultants
  - California Academy of Sciences
  - Genoptix Medical Lab
  - Hubbs Seaworld Research Institute
  - Kamehameha Schools
  - Kona Blue Water Farms
  - Nature Conservancy
  - NOAA Fisheries Observer Program
  - NOAA Hawaiian Monk Seal Program
  - Pacific Whale Foundation
  - Professional aquarium fish collector
  - Research Corporation of the University of Hawai'i
  - UH Maui College
  - U.S. Navy
1, or 2% reported being an intern at the Mote Marine Laboratory, and

1, or 2% reported being unemployed.

In a separate analysis, alumni were asked if they would recommend the BS Marine Biology program to someone looking for a good undergraduate education. Out of 42 responses, 35, or 83%, said yes. Limited availability of required courses was cited as the primary reason graduates would not recommend the Marine Biology program, and as discussed above, this problem has been resolved by substantially increasing the capacities of these courses. In addition, graduates referred to challenges in navigating the complex web of required courses and their necessary prerequisites, but consolidation of all advising services within the Department has lessened these problems.

When asked what former students liked most about the Department of Biology, they cited the hands-on nature of the courses, academic advising, willingness of the staff to assist them, and the willingness of the department to listen to student concerns.

Fig. 1. Summary of 74 recent graduates’ responses when asked to provide three words to best describe the Department of Biology. Word size is proportional to the number of times that word was mentioned.

In recent years, one or more of the Marine Biology graduates reported receiving the following awards or recognitions:

- ASUH Scholarship
- Dean’s List
- CNMI Scholarship
- Saipan Chamber of Commerce Award
- Kawaiahao Church Scholarship
- University of Hawai‘i Alumni Association Scholarship
- Student Success Scholarship
- Mānoa Centennial Scholarship
- Athletics Scholarship
- Chancellor’s Scholarship
- John P Craven Award
• Mānoa Scholarship
• Arts and Science, Natural Science Achievement Scholarship
• Marine Option Program–Sherwood D Maynard Award
• Mānoa Opportunity Grant
• Honors Forum – Best Oral Presentation for the Natural Sciences
• Best Undergraduate Presentation – Tester Symposium
• Best Poster – University of Hawai‘i at Mānoa Poster Conference
• ASUH Research Award
• Hubert and Mable Frings Endowed Scholarship
• Kaplan Test Prep Scholarship

In addition, one or more graduates reported participating in the following programs:
• Honors Program
• CMORE Scholars
• Phi Beta Kappa
• NSCS
• Undergraduate Research Opportunity Program
(6) Are program outcomes compatible with the objectives? (Analysis of numbers of majors, graduates, SSHs offered, service to non-majors, employment of graduates, etc., in relationship to objectives.)

Enrollment in the Marine Biology major grew rapidly initially, greatly exceeding the expected number by the fifth year, and appears to be stabilizing at around 350 students (Figure 2). During part of the most rapid increase in Marine Biology enrollment there was a slight decrease in enrollment in other majors in the department (i.e. Biology and Zoology) but the total number of students in all the degrees increased throughout this period. Enrollments in all our degrees have decreased slightly in the past year or two.

In the first years of the program problems in both retention and time to degree led to much slower growth in the number of graduates (Figure 3) than in the number of majors (Figure 2). We identified three reasons for these problems and have taken or are planning steps to resolve them, as described below. As a result the number of graduates per year has increased substantially in the last few years and times to degree now are comparable to those for the campus as a whole (Figure 3).

![Graph](image-url)

**Fig. 2.** The number of Marine Biology majors has grown substantially, in absolute numbers and relative to the numbers of majors in the other Biology degrees.
The first cause of low early graduation rates was that as originally designed the degree had a large number of required courses, which created a challenging and complex path to graduation. We recently removed a number of required courses to bring the degree in line with the current University of Hawai‘i at Mānoa graduation requirements of 120 credits to graduate. Previously, the Marine Biology degree required 131 credits to graduate, when all required major and general education courses were included. To bring the degree to 120 credits, we eliminated the following required courses: Animal Ecology (ZOOL 439; eliminated starting Fall 2014), Organic Chemistry II (CHEM 273; eliminated starting Fall 2015) and Biochemistry (BIOL 402 or BIOC 441; eliminated starting Fall 2015). Animal Ecology and Biochemistry are now approved Marine Biology electives. We also decreased the number of required directed research credits from 6 to 4. In addition, we increased the number of Marine Biology elective credits from 6 to 9, to allow the students more flexibility in the courses they select so they can tailor the degree to their interests. With the decreased credit requirements and increased elective options, we believe more students will complete the degree in a timely manner.

In summary, we have streamlined the Marine Biology major by reducing the number of required credits from 131 to 119, as follows:

- mandatory advising has resulted in many students taking ECON 321 (3 credits) as their additional mathematics course, because this course also fulfills the Diversification in Social Sciences requirement, thereby reducing the number of required credits by 3;
- reducing the BIOL 499 Biological Problems requirement from 6 to 4 credits;
- moving ZOOL 439 Animal Ecology (3 credits) from required to elective status;
- removing CHEM 273 Organic Chemistry II (3 credits) as a requirement;
• moving BIOL 402 Biochemistry (4 credits) from required to elective status; and
• increasing the number of free major electives from 6 to 9.

The second factor that affected graduation and retention rates was limited availability of required courses. We identified the primary bottlenecks and took steps to relieve them. The required course Biology of Invertebrates (ZOOL 475/L) was offered once a year and capped at 20 students until Fall 2013, but since then has been offered both spring and fall semesters with a total capacity of at least 78 seats per year. Also in Fall 2013, we started offering Special Topics in Marine Biology (BIOL 404) during both fall and spring semesters, rather than only in spring, increasing available seats from 20 to 40 per year. Marine Microbiology Laboratory (MICR 401L) increased to two sections for Spring 2014, will have three in 2015-16, and will continue to have a minimum of two sections in coming years. Available seats in Algal Diversity and Evolution (BOT 480) also have increased over time to meet demand, including a recent increase to four lab sections.

In summary, we have eliminated bottlenecks in course availability by:
• Doubling the number of offerings per year of Advanced Topics in Marine Biology (BIOL 404),
• Increasing capacity in Algal Evolution and Diversity (BOT 480) by increasing the number of lab sections and the number of students in lecture,
• Doubling, and in 2015-16 tripling, the number of lab sections in Marine Microbiology Laboratory (MICR 401L), and
• Nearly quadrupling the capacity of Biology of the Invertebrates (ZOOL 475/L).

The third cause of low retention and long times to graduation is the difficulty some biology students have in the introductory core and especially the related-required courses in mathematics and chemistry. Having to repeat any of these courses delays a student’s progress but organic chemistry is particularly problematic in this regard: it is a prerequisite for a sequence of two other required courses (BIOL 275 and BIOL 375). It is to address this problem that we are considering instituting admissions requirements to the degree as described in section (1) above, so that only students who perform satisfactorily in the core and related-required courses would be admitted into the relatively structured Marine Biology degree, with others staying in the more flexible Biology degrees.

Service to Non-Majors

Marine Biology courses and faculty provide services to students in the Marine Option Program (described in Question 1), approximately ¼ of whom are not Marine Biology majors.

Employment of Graduates

As reviewed above for Question 5, a substantial percentage of Marine Biology graduates find employment in this field.
(7) Are program objectives still appropriate functions of the college and university? (Relationship to university mission and development plans, evidence of continuing need for the program, projections of employment opportunities for graduates, etc.)

Overall, our program has been an enormous success in terms of enrollment. For example, in Fall 2013, 354 students were enrolled in the Marine Biology major, representing 28% of all Biology/Marine Biology/Zoology majors. Our major serves students from the State of Hawai‘i while attracting students from across the mainland USA and Pacific Rim.

The Marine Biology BS degree objectives and outcomes remain closely aligned and consistent with the goals, mission, and values of both the College of Natural Sciences, and the University of Hawai‘i at Mānoa, as outlined in the UH Mānoa 2011-2015 Strategic Plan.

**Relationship to University Mission and Development Plans**

**Goal 1. A Transformative Teaching and Learning Environment**

A major goal of the University of Hawai‘i at Mānoa is to “provide students with more opportunities to be active researchers/scholars in their chosen disciplines and leverage the unique opportunities offered by our place in the Hawaiian archipelago to produce individuals equipped with skills and knowledge unavailable to students at any other university in the world. ” In line with the second part of this goal, the University of Hawai‘i at Mānoa is rightfully seen as an ideal location in which to gain education and research experience in the ocean sciences. Students are taught upper-level marine science courses by faculty from two colleges (CNS and SOEST), faculty who are actively engaged in research on marine organisms and systems in the Hawaiian archipelago. Thus, examples and questions from Hawaiian systems are emphasized throughout the curriculum. The core lab class in the degree program Marine Ecology and Evolution Laboratory (BIOL 301L) takes students to a variety of marine habitats where they are introduced to field sampling techniques, hypothesis testing, and experimental design; in the lab, students process samples with techniques such as PCR and DNA sequencing, and are shown how to use flow cytometry; they analyze and interpret data using statistical software packages, and present their results in written and oral forms. The complementary required botany course, Algal Diversity and Evolution (BOT 480), and Microbiology course, Marine Microbiology (401/L), expand the lecture/lab training to include important plant and microbial topics. Majors are then required to obtain 4 credits of individualized research experience under the guidance of a UH faculty member. Because of the wide range of participating faculty, facilities, and accessible marine environments, students gain unique experiential learning in Hawaiian marine biology that can be applied more broadly to marine ecosystems throughout the world.
Goal 2: A Global, Leading Research University

As one of only 33 Sea Grant universities and one of only six in the Pacific Region, the University of Hawai‘i is uniquely positioned to train students for the emerging “blue economy” that is fueled by our increasing reliance on ocean resources. All majors in the Marine Biology program engage in a meaningful, supervised research project that provides them with laboratory research and safety skills, and training for jobs in resource management, research, or higher education. Although many research projects are focused on Hawaiian ocean resources or management, providing links to the local community and job market, students have participated in research that spans the entire Indo-Pacific region and draws in collaborators and visitors from across the globe. Outstanding students have the opportunity to be rewarded by competitive research and travel funding from the UH Mānoa Undergraduate Research Opportunities Program (UROP), and are eligible to present their research at the annual Tester Symposium, organized by the Department of Biology.

Goal 3: An Engaged University

Many of the research projects completed by students in the Marine Biology major focus on Hawaiian ocean resources or management. In 2013, students in BIOL 499 (Directed Research) surveyed fish populations around O‘ahu, assessed the usefulness of sea urchins as biological controls on invasive algae, studied the accumulation of toxins in butterflyfish, and researched the acoustics of whale communication (among many other projects). In addition to students who conduct research in faculty labs on the Mānoa campus, many also work with faculty and staff at the Hawai‘i Institute of Marine Biology, Kewalo Marine Laboratory, the Bishop Museum, the Waikiki Aquarium, NOAA, the Anuenue Fisheries Research Center, and other agencies. Marine Biology majors are instilled, through coursework and research experiences, with a Hawaiian sense of place and an understanding of the importance of community-driven and locally oriented science in our state. Marine Biology faculty also sponsor students through the Native Hawaiian Science and Engineering Mentorship Program (NHSEMP), a program that places native Hawaiian undergraduate students (generally from outside our major) in labs to gain experience and interact with graduate students and faculty working in STEM fields. Despite limited funding and mentorship pressure created by our own majors having to fulfill research requirements, we value and support our partnership with NHSEMP.

Goal 4: Facilitating Excellence

The Marine Biology major provides students with a strong background in biology, the primary sciences and mathematics, and a broad exposure to marine biology, including experimental design, data management and analysis, and interpretation of results, particularly in the use and application of marine monitoring techniques. Students also gain proficiency in laboratory practices and safety, as well as oceanographic and marine biological laboratory methods and field techniques.
In meeting these goals from the University's Strategic Plan, the Marine Biology major also meets
the goals of the College of Natural Sciences (CNS). Through the rigorous scientific education
and meaningful research experiences described above, the Marine Biology major is particularly
aligned with the first three goals of CNS: (1) to prepare students to function in a world of rapid
scientific and technological change, (2) to teach the meaning and role of scientific method and
its importance to society, and (3) to prepare students for significant positions in the increasingly
technological societies of Hawai‘i, the United States and the Pacific Rim.

Evidence for Continuing Need of the Program

While marine biology has been a popular and important field for centuries, the singular
importance of ocean resources in the modern world is driving an ever-increasing need for
graduates with a strong background in marine biology to work in industry, government, non-
government, and private agencies, K-12 and higher education, aquaculture, marine resource
management, consulting firms, analytical laboratories, ecotourism, and public education. After
an initial period of very rapid growth the marine biology undergraduate program has had >200
majors every year since 2006; enrollment continues to increase, demonstrating evidence of
strong continuing demand from students.

Projections of Employment Opportunities for Graduates

A summary of students' post-degree activities is in Section 5 (Evidence of Program Quality), so
we provide only a short summary here as evidence that our graduates succeed in obtaining jobs
or being admitted to graduate schools. Overall, our graduates have done well in the job market
and furthering their education and experiences in marine biology related disciplines We have
information on post-graduation activities and employment from 49 recent Marine Biology
graduates. A large majority (69%) of these alumni are currently in graduate school or internship
programs: 24 are in Master's programs, 9 in Doctoral programs, and one is in an internship
program at a marine laboratory; 29% of our alumni are employed, mostly in marine biology
related positions (e.g., NOAA, The Nature Conservancy), schools (e.g., Kamehameha Schools),
museums (California Academy of Sciences), and environmental consulting firms. Only a very
small percentage (2%) of respondents are unemployed or working outside of marine science.
Based on these data and on the burgeoning need for marine scientists, educators, and managers,
we believe employment projections are excellent.
APPENDIX: Academic Program Cost and Revenues Template.

Explaination of Academic Program Cost and Revenues Template

The Marine Biology B.S. is only one of several degrees offered by the Department of Biology, most of the courses taken by Marine Biology majors also are taken by students in other majors, and some of those courses are taught at least in part by faculty from other departments. It therefore is difficult to clearly identify costs and revenues directly attributable to the Marine Biology degree program. The approach we have adopted in order to estimate these costs and revenues is as follows:

Costs: We included only costs directly attributable to the four required upper-division courses: BIOL 301/L, BIOL 404, BOT 480 and MICR 401/L. On the one hand this omits costs for all the other courses the Marine Biology students take as well as the Marine Biology program’s share of general departmental costs (administration, advising, etc.). On the other hand, this attributes the entire costs of these four courses to the Marine Biology program, while students from other majors are substantial fractions of enrollment in all of the courses but BIOL 404.

Revenues: We calculated, for each year, what fraction of students enrolled in all the majors offered by the Department of Biology (Biology and Zoology BA and BS degrees as well as the Marine Biology BS) were Marine Biology majors. We then assumed Marine Biology majors accounted for this same fraction of the Department’s total SSH (row B of the Template) and resulting tuition revenue (row G of the Template).

Explanation of specific components of the Template:

A. Total students declared Marine Biology in fall of that academic year.
B. Total undergraduate SSH for ZOOL and BIOL courses multiplied by the proportion of undergraduate students in the Department of Biology that were Marine Biology.

Annual SSH=(SSH ZOOL+SSH BIOL)*[# MB Students/(# ZOOL+BIOL+MB Students)]

C. Estimated 1.0 FTE Faculty salary without fringe at $100,000
   a. Faculty FTE for teaching contribution for BIOL 301, MICR 401, BOT 480, and BIOL 404 (1 course, 1 semester=0.25 FTE)
   b. No part time lecturers hired for the above stated courses.
D. Other personal costs
   a. TA salaries; calculated using current (2014) step 6, 9 month salary (1 semester course=0.25FTE)
E. Unique Program Costs: lab costs for BIOL 301L, MICR 401L, BOT 480
H. Other revenue: lab fees
Historical and Projected Costs:

Faculty

Through the early years of the program each of the four required upper-division courses was offered once per year, with two instructors for BIOL 404 and one each for the other three courses, for a total of 1.25 FTE. The faculty required for BIOL 301/L and BOT 480 have not changed and are not expected to do so.

Since 2013-14, BIOL 404 has been offered both semesters. In 2013-14 this added 0.5 faculty FTE. Starting in Spring 2015 we began providing a TA for BIOL 404 in place of one of the instructors, reducing the course back to 0.5 faculty FTE per year. We anticipate needing a third section of BIOL 404 beginning in 2016-17, requiring 0.25 additional faculty FTE.

MICR 401/L will be offered in both semesters of this academic year (2015-16), as a one-time addition to eliminate a backlog of students needing the course. This will add 0.25 faculty FTE for the year.

Teaching Assistants

Initially there was one teaching assistant per year for MICR 401L, two for BIOL 301L, and three for BOT 480, for a total of six. One additional teaching assistant has been added to each course as the number of lab sections has increased, so that the current and projected number of teaching assistants for these courses is nine; the one-time addition of a section of MICR 401L this year (2015-16) will require one more teaching assistant.

BIOL 404, which does not have a laboratory, initially did not have teaching assistants. We have recently decided to assign an experienced teaching assistant to this course so that it only one faculty instructor will be required per section, while retaining the heavy grading workload required for this course’s Writing Intensive designation. This added one teaching assistant in 2014-15 and is expected to add one more in 2015-16 and possibly a third beginning in 2016-17.

Laboratories

The laboratory costs in two of the three required upper-division courses with laboratories have increased with increasing enrollment, the exception being BOT 480, the costs of which were relatively unchanged despite steep increases in enrollment. We expect enrollments in these courses to increase slightly over the next few years and then to level off, with costs only moderately greater than at present.
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<td>Program used for comparison</td>
<td>Undergraduate Programs in CAH/HR</td>
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### A. Headcount Enrollment:

Campus data may be used when majors are a subset of enrollment reported in IRP reports.

### B. Annual SSH:

Add the SSH for the Fall and Spring reports to obtain the annual SSH. This is all SSH taught by the program, including 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<>''),D32+D34,'')"

### D. 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.

### E. Unique Program Costs:
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.

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

### G. Tuition:
Annual SSH X resident tuition rate/credit "Formula for column D: =IF(D10<0,D10*1.35+D22,'')"

### H. Other:
Other sources of revenue including grants, program fees, etc. This should not include in-kind contributions unless the services or goods contributed are recorded in the financial records of the campus and included in Direct and Incremental Costs in this template.

### I. Total Revenue:
G + H "Formula for column D: =IF(OR(D21<>'',D23<>''),SUM(D21,D23),'')"

### J. 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,'')"

### K. Instructional Costs with Fringe:
K1. Salaries of Full Time Faculty and Lecturers who are > 5 FTE based on FTE directly related to the program. Add negotiated collective bargaining increases and 4% per year for inflation thereafter.

K2. K1 X 1.35 "Formula for column D: =IF(D32<>'',D32*1.35,'')"

K3. Salaries without Fringe for Lecturers who are < 5 FTE based on FTE directly related to the program. Add negotiated collective bargaining increases and 4% per year for inflation thereafter.

K4. K3 X 1.05 "Formula for column D: =IF(D34<>'',D34*1.05,'')"

### L. Support Costs:
The campus' non-instructional expenditure/shh + systemwide support — organized research (UHM only) as provided by UH Expenditure Report (http://www.hawaii.edu/iro/maps.php?title=Expenditures+Study) "Formula for column D: =IF(OR(D31<>'',D36<>''),D31+D36,'')"

### M. Total Program Cost:
K + L "Formula for column D: =IF(OR(D31<>'',D36<>''),D31+D36,'')"

### N. Total Campus Expenditure:
Taken from UH Expenditure Report. For example, for 2009-2010: UHM = $923,131 (organized research) = $752, UHH = $682, UHWO = $501, HawCC = $408, HonoluluCC = $505

### O. Comparable Program/Division Instructional Cost:
Taken from UH Expenditures Report (http://www.hawaii.edu/iro/maps.php?title=Expenditures+Study) or campus data, as available. Please note in the space provided the program used for the comparison.

### Example from the 2010-11 UH Expenditure Report:
(http://www.hawaii.edu/cgi-bin/maps/searchprintpdf?esuhfyi1011.pdf) the support expenditure/shh per campus is:

<table>
<thead>
<tr>
<th>Campus</th>
<th>Support Expenditure/shh</th>
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<tbody>
<tr>
<td>UHM</td>
<td>$507.00 + $56 - $128 for organized research = $435</td>
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<tr>
<td>UHH</td>
<td>$437 + $45 = $482</td>
</tr>
<tr>
<td>UHWO</td>
<td>$230.00 + $28 = $258</td>
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<tr>
<td>HawCC</td>
<td>$155.00 + $34 = $189</td>
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<td>HuyCC</td>
<td>$234.00 + $44 = $278</td>
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<tr>
<td>KapCC</td>
<td>$123.00 + $29 = $152</td>
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<td>KauCC</td>
<td>$328.00 + $59 = $387</td>
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<td>LeeCC</td>
<td>$123.00 + $27 = $150</td>
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<tr>
<td>MauiCC</td>
<td>$150.00 + $35 = $185</td>
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<tr>
<td>WnCC</td>
<td>$264.00 + $40 = $304</td>
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### Rev 10.31.12
MEMORANDUM

TO: Randolph G. Moore
   Chair, Board of Regents

VIA: David Lassner
     President
     University of Hawaii System

VIA: John Morton
     Vice President
     University of Hawaii Community Colleges

FROM: Douglas Dykstra
      Chancellor
      Windward Community College

SUBJECT: Request Approval to Change from Provisional to Established Status, Associate in Science in Veterinary Technology, Windward Community College

SPECIFIC ACTION REQUESTED:

Request approval to change from provisional to established status, Associate in Science in Veterinary Technology, Windward Community College

RECOMMENDED EFFECTIVE DATE:

Fall 2016

ADDITIONAL COSTS:

Since its launch in 2012, the Associate in Science in Veterinary Technology (ASVT) has generated a small budget surplus in each year of operation. Through a combination of external support and internal college finances from general fund as well as tuition and fees, WCC has covered all costs related to the ASVT since its establishment in 2012. The change from Provisional to Established status will therefore have minimal financial impact on the College.

BACKGROUND INFORMATION:

Board of Regents Policy 5-1 b (3) states that “the Board shall determine whether the program is to be awarded established status or terminated.”
The overarching goal of the ASVT is to equip students with the skills and experience to pass the Veterinary Technician National Exam and gain employment as Veterinary Technicians—paraprofessionals that are trained in the husbandry and care of companion animals (cats and dogs), livestock, and laboratory animals. They work under the supervision and guidance of a licensed veterinarian and provide several types of specialized care, including: obtaining patient histories, performing laboratory tests, producing patient radiographs (x-rays), providing anesthesia and surgical assistance, performing routine dental prophylaxis, and providing client education. Veterinary Technicians are typically educated in 2- or 4-year programs, all of which must be accredited by the American Veterinary Medical Association (AVMA). Currently, there are 231 such programs in the U.S. Windward CC’s program is the only program of its kind in Hawaii and the Pacific.

The Associate in Science in Veterinary Technology was offered to its first students in Fall 2012. The ASVT is a “stackable credential” which builds a complete Associate of Science degree upon the training students previously received for the Certificate of Achievement in Veterinary Assisting (CAVETA). 100% of coursework completed for the CAVETA counts towards the ASVT. The ASVT includes 70-credit hours of coursework including lectures, intensive clinical laboratories, and internships at local veterinary clinics.

Students are admitted to the ASVT on a competitive basis and program enrollment is limited to 24. Selection criteria include GPA, strength of student interviews, and previous experience in the veterinary field.

Significance/Contribution of this degree:

WCC’s ASVT program continues to directly address the educational and training needs of our students and also meets the needs of the local veterinary workforce. In offering the state’s only Veterinary Assisting and Veterinary Technology programs, Windward Community College, the CAVETA, and ASVT are raising the standard for animal care in the Pacific. 

Cost and resource allocation/reallocation implications:

As a small cohorted program with manageable costs, the ASVT program is expected to continue to generate a modest amount of surplus revenue:

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<td>Revenue ($)</td>
<td>93,405</td>
<td>21,168</td>
<td>38,811</td>
<td>16,185</td>
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Specialized facilities were recently constructed and renovated and there are no anticipated space needs in the foreseeable future. Existing facilities, clinical equipment, consumable supplies, and maintenance contracts are sufficient to meet current program needs and external accreditation requirements. Faculty and staff positions allocated through the usual WCC planning and budgeting allocation process are sufficient to support the program.
Demand projections:
Performance metrics for the ASVT point to a healthy, stable, and productive program of study. Student enrollment demand remains robust. The last two cohorts of students have filled completely. To date, a total of 55 students have declared the Veterinary Technology major and 48 students have graduated from the program, yielding an exemplary graduation rate of 87%. Retention, graduation, and national exam pass rates are above national averages and employer demand for ASVT graduates remains high. Alumni surveys reveal that over 95% of the 2015 graduates have obtained employment in the local veterinary industry.

Accreditation impact (if any):
WCC's ASVT has been granted "initial" accreditation by the American Veterinary Medical Association (AVMA). This status recognizes Veterinary Technology programs in their first five years of operation which are on their way to meeting all AVMA accreditation benchmarks. The ASVT will be evaluated by the AVMA for full accreditation in 2018. BOR approval of established status will support the ASVT's accreditation.

Examples (2-3) of similar models from peer institutions:
Foothill College (CA) offers an AVMA-accredited Associate of Science in Veterinary Technology degree with a curriculum similar in content and length to our ASVT. Mt. San Antonio College (CA) also offers an AVMA-accredited Associate of Science in Veterinary Technology degree with a curriculum similar in content and length to our ASVT.

Similar programs at other UH campuses:
The ASVT is the first and only program of its kind in the state of Hawaii.

Statement from campus administration of new program’s strategic value within the UH priorities:
The ASVT aligns with Windward Community College’s stated institutional mission to provide opportunities for studies in arts & sciences and career & technical education fields of study. The ASVT further supports the UH System’s Hawaii Graduation Initiative and its stated desires to “anticipate and align curricula with community and workforce needs” and, “implement structural improvements that promote persistence to attain a degree and timely completion.”

Impact of new program/program change request on campus budget allocations and mission priority:
There are no additional costs associated with the change from provisional to established status. There will be no need for revised or additional budget allocations to support the ASVT.
ACTION RECOMMENDED:
Recommend approval to change from provisional to established status, Associate in Science in Veterinary Technology, Windward Community College

Attachment: Provision to Established Program Review, Associate in Science, Veterinary Technology

c: Risa Dickson, Executive Vice President for Academic Affairs
Cynthia Quinn, Executive Administrator and Secretary, Board of Regents
Provisional to Established Program Review

**Associate in Science, Veterinary Technology**

Date of Proposal: February, 2016

Proposed Date of Implementation: August, 2016
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Executive Summary

Overview of Program - The Associate in Science in Veterinary Technology was launched to its first students in Fall 2012. This two-year degree builds on Windward Community College's successful one-year Certificate of Achievement in Veterinary Assisting. The Associate in Science in Veterinary Technology (ASVT) addresses the need for credentialed technicians in the local veterinary workforce.

- The ASVT is a “stackable credential” which builds a complete Associate of Science degree upon the training students received for the Certificate of Achievement in Veterinary Assisting (CAVETA). 100% of coursework completed for the CAVETA counts towards the ASVT.
- Students are admitted to the ASVT on a competitive basis. Selection criteria include GPA, strength of student interviews, and previous experience in the veterinary field.
- The ASVT includes 70-credit hours of coursework including lectures, intensive clinical laboratories, and internships at local veterinary clinics. The overarching goal of the ASVT is to equip students with the skills and experience to pass the Veterinary Technician National Exam and gain employment in the veterinary workforce.
- The CAVETA and ASVT are the first and only programs of their kind in the state of Hawaii.

Less than one year after its launch, the ASVT was provided initial accreditation status by the American Veterinary Medical Association in March 2013. The clinical nature of the program requires a low instructor-to-student ratio and enrollment for the ASVT program is capped at 24 students per year. Total cost for the program is $12,480 for Hawaii residents. Currently, the ASVT is only available to students who can attend courses on Windward CC’s Kaneohe campus.

Budget and Adequacy of Program Resources - Total direct costs for the program are estimated at $280,025 annually, with the overall cost per credit estimated at $591/SSH. Program costs are comparable to other health-related programs in the UHCC system. Two full-time faculty are allocated to the program. Currently, adjunct faculty teach 65% of program credits. Other essential program resources include a 2,000 square foot veterinary teaching hospital and approximately $500,000 in clinical equipment and durable supplies. These are sufficient to meet current program needs. The program also uses approximately $48,000 in funds annually to fund the purchase of consumable supplies, maintenance contracts, and external accreditation.

Program Demand, Efficiency, and Effectiveness - Performance metrics point to a healthy, stable, and productive program of study. Student enrollment demand remains robust. The last two cohorts of students have filled completely. To date, a total of 55 students have declared the Veterinary Technology major and 48 students have graduated from the program, yielding an exemplary graduation rate of 87%. Course fill- and satisfactory completion rates for program courses are 81.6%, and 88%, respectively and the fall-to-spring retention rate is 80.7%. The Veterinary Technician National Exam pass-rate for program graduates of 79% significantly exceeds national averages (71%). Finally, employer demand for ASVT graduates remains high. Alumni surveys reveal that over 95% of the 2015 graduates have obtained employment in the local veterinary industry.
The program remains in high-demand and has been highly effective at facilitating the successful placement of graduates into suitable employment in the local veterinary industry.

**Conclusion** - The ASVT program continues to directly address the educational and training needs of our students and also meets the needs of the local veterinary workforce. In offering the state’s only Veterinary Assisting and Veterinary Technology programs, Windward Community College, the CAVETA, and ASVT are raising the standard for animal care in the Pacific. We therefore request that the Associate in Science in Veterinary Technology be moved from “Provisional” to “Established” status.

**1. Introduction to the field of Veterinary Technology**

Veterinary Technicians are paraprofessionals that are trained in the husbandry and care of companion animals (cats and dogs), livestock, and laboratory animals. They work under the supervision and guidance of a licensed veterinarian and provide several types of specialized care, including: obtaining patient histories, performing laboratory tests, producing patient radiographs (x-rays), providing anesthesia and surgical assistance, performing routine dental prophylaxis, and providing client education. Veterinary Technicians are typically educated in 2- or 4-year programs, all of which must be accredited by the American Veterinary Medical Association (AVMA). Currently, there are 231 such programs in the U.S. Windward CC’s program is the only program of its kind in Hawaii and the Pacific. In order to become “licensed” or “certified,” ASVT program graduates must pass the Veterinary Technician National Exam and stay up-to-date with continuing education requirements. (www.avma.org)

**2. Need for Program**

**National and Local Need**

In 2012, Veterinary Technology was listed among the top fastest-growing professions by the Bureau of Labor Statistics (Appendix 1), with 84,800 credentialed technicians employed nationwide. Job growth for Veterinary Technicians is increasing at an above average rate. The nationwide shortage of skilled Veterinary Technicians has been widely discussed in academic and trade journals and has received attention in the media (Appendix 2). CBS News has also featured veterinary technology as one of its fastest-growing “recession-proof” jobs.

This workforce need is also evident on a local level. There are currently 90 veterinary clinics and shelters in the state including over 50 on the island of Oahu. In a 2007 poll of Hawaii Veterinarians, 80% of respondents recognized the need for additional training for Technicians and Assistants. The majority of respondents also stated that they would be willing to pay higher salaries for trained personnel. A 2009 survey of Oahu’s veterinary clinics (n = 22 respondents) further indicates that credentialed Technicians account for fewer than 10% of new hires. This low number reflects a severe shortage of credentialed

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2. Hawaii Veterinary Medical Association 2007 Survey
technicians. Industry demand for trained veterinary Assistants and Technicians may currently exceed 100 individuals per year for Oahu alone.

As stated previously, Veterinary Technicians in most states must complete an AVMA accredited training program in order to sit for the VTNE and become credentialed. Currently, there are 231 AVMA accredited Veterinary Technician programs in the United States. Until the WCC Veterinary Technology Program was accredited by the AVMA in March 2013, Hawaii was one of only four states that lacked any sort of formal training for Veterinary Technicians.

3. Meeting Industry Needs - Step 1: CA in Veterinary Assisting

To address the need for additional training for Hawaii’s veterinary paraprofessionals, WCC initially created the Certificate of Achievement in Veterinary Assisting (CAVETA). This two-semester certificate trains students to perform essential tasks in the veterinary clinic, including providing animal restraint, assisting with physical exams, conducting clinical laboratory tests, and helping with front-office tasks. Student demand for the Veterinary Assistant program remains high. Since its launch in Fall 2009, the CAVETA has filled to capacity within a few weeks of open registration. As of March 2015, 71 students have completed the program. The CAVETA program has received considerable support from the local veterinary industry and has enhanced the reputation of Windward CC and its graduates. Over 70% of CAVETA graduates have obtained gainful employment in a veterinary practice.

The Certificate of Achievement in Veterinary Assisting (CAVETA) meets basic industry standards for Assistants but was determined insufficient to adequately meet student and employer needs at a higher level. For example, CAVETA graduates do not receive an AVMA accredited degree and they are not eligible to sit for the national VTNE exam. Graduates of the CAVETA are also not trained in all aspects of veterinary medicine such as anesthesiology, pharmacology, surgical assisting, livestock medicine, lab animal medicine, or radiography.

CAVETA students are employable for entry-level work but may find themselves ineligible for many federal jobs (at the USDA & FDA, for instance.) CAVETA graduates may also face limited job prospects when moving out-of-state (approximately 20% of our students are military dependents who will eventually move to the mainland). Those who do remain in Hawaii can expect to make wages 35% lower than that of credentialed Technicians (Appendix 3) and are unlikely to rise to management or supervisory positions thus hampering earning potential.

4. Meeting Industry Needs - Step 2: AS in Veterinary Technology

The assessment that the CAVETA does not fully meet the needs of students or the veterinary workforce led Windward CC to develop an additional year of Animal Science courses. An Associate in Science...
degree was created to build upon 100% of the courses completed for the CAVETA. Windward’s Associate in Science degree in Veterinary Technology was designed to provide students comprehensive training in the care and treatment of animal species commonly seen in veterinary practice including companion animals (cats and dogs), livestock animals (cattle, horses, and swine), and exotic- and laboratory animals (rodents, reptiles, fishes, birds, and others). The ASVT provides additional coursework and the clinical experiences necessary for students to take the Veterinary Technician National Exam (VTNE) and obtain an American Veterinary Medical Association (AVMA) accredited degree. This ASVT is a nationally-recognized credential and now enables our graduates to obtain employment in veterinary clinics, animal shelters, animal quarantine facilities, and lab animal facilities throughout the U.S. and Canada. Wages for credentialed Veterinary Technicians are significantly higher (over 35%) than Veterinary Assistants or other workers who receive only on-the-job training.

The ASVT combines traditional classroom instruction with intensive hands-on laboratory and practical experience utilizing live animals in a clinical setting. In addition to completing all CAVETA courses, students enrolled in the ASVT receive didactic and practical training in veterinary pharmacology, radiology, anesthesiology, surgical assisting, dentistry, and several other areas (15 courses/39 credit hours). Much of this instruction takes place in a state-of-the-art veterinary teaching hospital recently constructed on the WCC campus. This new facility has been essential to the success of the program as it allows students to participate in all aspects of patient care including patient admission, the conducting of physical exams, taking and developing x-rays, performing dental prophylaxis, administering anesthesia, and the provisions of assistance to the veterinarian during surgical procedures. Through their work in the teaching hospital, students are able to gain proficiency in the skills deemed as essential by the AVMA.

In addition to learning about companion animal (cats and dogs) medicine, students enrolled in the ASVT also visit working farms and stables where they learn how to conduct physical exams and provide veterinary care for horses, cattle, swine, sheep, and goats. They also learn about the care of lab animals and exotic species through fieldtrips to the UH Manoa and Kakaako Lab Animal vivariums, and local aquaculture and aquaponics facilities. During the final two semesters of the program, students also intern (240 hours total) at two of WCC’s 30+ preceptor clinics and shelters where their skills are evaluated and critiqued by industry professionals. This experience allows students to hone and apply their skills in a real world setting and serves as a bridge to future employment. Over 75% of our students are offered employment in the veterinary industry within one month of graduation.

During their final semester in the ASVT program, students enroll in a capstone course (ANSC 290) that helps them to review all that they have learned in the past two years and prepare for the VTNE. During the course, the students take weekly quizzes, which have been created based on the nine subject area domains covered in the VTNE. The results of the weekly quizzes help students to recognize any deficiencies in their knowledge and preparation. They then work with the course instructor to devise a customized study plan to get them up-to-speed on the problem topics. In addition, metadata from the weekly assessments can be analyzed in order to identify common deficiencies among the entire student
The results of these analyses are used to foster a cycle of continuous program improvement. These data are used to generate recommendations for curricular revisions to program courses ensuring that the next cohort of students will receive additional training in areas flagged as most challenging. Although the program has only graduated three cohorts of students at this point (3 students in 2013, 21 in 2014, and 24 in 2015), results from the VTNE indicate this improvement strategy has been successful. The pass-rate for first-time test takers increased from 66.7% in 2013 to 83.3% in 2014, and declined to 76% in 2015. The cumulative overall pass rate for first-time test takers is 79%. This is significantly better than the national average which hovers around 64.5%.

Program Mission
The mission of the program is to increase the quality of veterinary care in Hawaii by providing students with essential skills and knowledge that will enable them to obtain rewarding, living-wage jobs in the animal care field.

The major objectives for this program are to:

1) Train Hawaii’s veterinary paraprofessionals to perform essential tasks in the veterinary hospital and lab animal facilities (e.g., administer anesthesia, take and develop radiographs, assist with surgical procedures, dispense medications, perform vital lab tests, and provide client education).
2) Allow students to obtain industry-recognized credentials that will enable them to obtain employment at veterinary hospitals, lab animal facilities, and research laboratories throughout the United States and Canada.
3) Meet the current and anticipated veterinary workforce needs in Hawaii.

Program Outcomes

After completing the program, students will be able to:
1. Effectively communicate with clients and veterinary staff.
2. Perform routine business transactions and maintain patient and facility records.
3. Ensure the safety of patients, clients, and staff and maintain compliance with regulatory agencies.
4. Identify common breeds of animals seen in veterinary practice (including companion animals, livestock, exotic animals and laboratory animals), list their nutritional requirements and husbandry needs, and describe the anatomy and functions of major body systems.
5. Assist with physical exams and obtain patient histories.
6. Perform routine nursing procedures including first-aid, wound-management, and administration of medications, anesthetics and vaccines.
7. Develop a working knowledge of common veterinary diseases (including those of companion animals, livestock, exotic and lab animals) and describe appropriate medical treatments.
8. Collect biological samples and perform diagnostic laboratory tests.
9. Utilize radiographic equipment in order to create diagnostic radiographic images.
11. Safely and effectively operate and anesthetic delivery equipment and manage patients during all phases of anesthetic procedures.
12. Provide surgical instruments and assist with surgical procedures.

5. Relationship of Objectives to WCC Mission and Strategic Plan

Windward Community College Mission

Windward Community College offers innovative programs in the arts and sciences and opportunities to gain knowledge and understanding of Hawai‘i and its unique heritage. With a special commitment to support the access and educational needs of Native Hawaiians, we provide O‘ahu’s Ko‘olau region and beyond with liberal arts, career and lifelong learning in a supportive and challenging environment — inspiring students to excellence.

The Associate in Science in Veterinary Technology fulfills the following goals outlined in the WCC Mission Statement and Strategic Plan (Action Outcomes listed in parentheses):

- Contribute to the development of a high-skilled workforce through the establishment of at least one new specific, career-focused degree, certificate or career pathway per year that leads to employment in emerging fields (4.1).
- Establish partnerships with employers to create internships and job placements (4.2).
- Expand the curriculum that prepares students for critical workforce shortage areas (4.3).
- Create internships and service learning opportunities in the community (4.4).

6. Curriculum & Admissions Requirements

The Associate of Science in Veterinary Technology consists of five semesters of coursework. Students begin the degree track by enrolling in the Certificate of Achievement in Veterinary Assisting (CAVETA) during year 1. Enrollment to this part of the program is open to students who have met program prerequisites which require students to: 1) attend a mandatory program information session prior to enrollment and 2) place at-or-above 100-level Math and English via the ACT COMPASS placement exam or completion of developmental classes.

During the spring semester of the CAVETA, students with a GPA of 2.0 or higher in first-semester Core- and General Education classes will be eligible to apply for formal admission to the Associate in Science in Veterinary Technology program.

Students are admitted to the ASVT on a competitive basis (Appendix 4). Applications to the program are due March 1 and are evaluated by an admissions committee which includes veterinary faculty (full-time and adjunct) as well as practicing veterinarians and technicians representing local employers. The admissions committee ranks applications based on the following criteria: GPA, number of CAVETA and

WCC Veterinary Technology Program – Provisional to Established (February, 2016)
general education classes successfully completed, clinical aptitude and professionalism (as determined
by a clinical skills assessment administered in Animal Science 151L (Clinical Laboratory Techniques Lab)
& Animal Science 152L (Companion Animal Nursing),) instructor evaluations, letters of recommendation,
and strength of student interviews (conducted by the committee between the last week of March and
first week of April.)

The committee then submits its admissions recommendations to the Program Director by the second
Friday in April. The Director informs the applicants of the committee’s decision in writing during the
second week of April. Those admitted to the program will register for ASVT classes beginning May 1st.

The ASVT is a 70-credit cohorted program of study requiring study on an 11-month basis. As a year-
round program, Summer tuition for ASVT students is charged at the usual fall/spring per credit rate.
Students admitted to the ASVT are expected to attend classes on a full-time basis.

Year 1: Certificate of Achievement in Veterinary Assisting (31 credits)

I. General Education and Preparatory Classes (9 Credits)
   English 100- Expository Writing
   Psychology 100-Survey of Psychology
   Speech 151- Personal and Public Speech OR SP 181- Interpersonal Communication

II. Veterinary Assisting Core Classes (22 Credits)
   Animal Science 140- Introduction to Veterinary Technology & Assisting
   Animal Science 142- Anatomy & Physiology of Domestic Animals
   Animal Science 142L- Anatomy of Domestic Animals Laboratory
   Animal Science 151- Clinical Laboratory Techniques
   Animal Science 151L- Clinical Laboratory Techniques Laboratory
   Animal Science 152- Companion Animal Diseases & Nutrition
   Animal Science 152L- Companion Animal Nursing
   Animal Science 191- Veterinary Office and Computer Skills
   Health 125- Survey of Medical Terminology
   Mathematics 101- Mathematics for Veterinary Assistants & Technicians

Year 2: Associate in Science in Veterinary Technology (39 credits)

I. General Education Classes (3 credits)
   Humanities Elective

II. Veterinary Technology Core Classes (36 Credits)
   Animal Science 190- Clinical Practices & Internship I
   Animal Science 252- Diagnostic Imaging for Veterinary Technicians
   Animal Science 252L- Diagnostic Imaging for Vet Techs Lab
   Animal Science 253- Pharmacology for Veterinary Technicians
   Animal Science 258- Clinical Lab Techniques II
Animal Science 258L- Clinical Lab Techniques II Lab
Animal Science 261- Anesthesiology & Dentistry for Veterinary Technicians
Animal Science 261L- Anesthesiology & Dentistry for Vet Techs Lab
Animal Science 262- Clinical Procedures for Large Animals
Animal Science 262L- Clinical Procedures for Large Animals Lab
Animal Science 263- Lab Animal Nursing
Animal Science 266- Clinical Practices & Internship II
Animal Science 271- Anesthesiology & Surgical Nursing for Veterinary Technicians
Animal Science 271L- Anesthesiology & Surgical Nursing for Vet Techs Lab
Animal Science 290- Veterinary Technician Exam Review

(See Appendix 5 for course descriptions. A suggested course sequence is included in Appendix 6.)

7. Assessment of Demand Indicators

The A.S. in Veterinary Technology was approved by the BOR in spring of 2012, and the first cohort of five students entered the following fall (Table 1). The small size of the initial cohort can be attributed to three factors: 1) the time period between approval of the program (March 2012) and enrollment of the first cohort (April 2012) was extremely short, allowing insufficient time for program promotion and advertisement; 2) few of the existing CAVETA majors had completed all of the prerequisites needed to enter the program; and 3) eligible students may have been reluctant to enroll in the program since it was not yet accredited by the AVMA. Despite the small size of the initial cohort, subsequent cohorts (24 and 26 students in 2013 and 2014, respectively) have met or exceeded the nominal capacity of 24 students/year. Enrollment in program classes remains high. Based on these data, student demand for the program is strong and should sustain the program for the foreseeable future.

Because students seeking to enroll in the A.S. in Veterinary Technology must first complete the CAVETA requirements, the success of the A.S. program is also dependent on student demand for the certificate program. The CAVETA program was first offered in 2009, with a modest enrollment of 14 students. Subsequent enrollment increased steadily for the subsequent three years, peaking at 81 declared majors in 2012 (the program is capped at 60 students/year). Although the number of declared majors has decreased somewhat in the last two years (76 students in 2013 and 56 students in 2014), this reduction may be a result of new program prerequisites rather than waning student interest. Although these prerequisites may have reduced the number of CAVETA majors, they have actually led to an increase in CAVETA students who are eligible to apply for the A.S. degree during the following year. For example, a total of 40 students (71% of current CAVETA majors) applied for admission to the A.S. degree during the spring, 2015 semester. Given that the A.S. program has a maximum capacity of 24 students, these data indicate that the number CAVETA majors is more-than-sufficient to ensure an adequate number of applicants for the A.S. degree.
8. Assessment of Program Efficiency and Effectiveness

Based on the 2014 Annual Report of Program Data, the ASVT received a “Healthy” designation for program efficiency. The average class size (16.2 students) is comparable to similar allied-health programs in the University of Hawaii Community Colleges – which range from 14.5 (KapCC Medical Laboratory Technician) to 19.2 (KapCC Associate’s Degree in Nursing) students-per-class. The aggregate course fill-rate for CAVETA and ASVT classes is 81.6%, which is comparable to the overall fill-rate for courses at WCC (80.5%).

The ASVT program received a “Cautionary” designation for program effectiveness. It is noteworthy that data for the CAVETA and ASVT degrees are reported as an aggregate rather than broken out by program level and may therefore not be a fully accurate representation of program “health.” In AY 2013-2014, fall-to-spring persistence was reported as 81.6%, whereas fall-to-fall persistence was reported as 43.4%. The large difference between these two indicators is directly attributable to the overlapping nature of the CAVETA and ASVT. In any given year, only half to two-thirds of CAVETA completers will gain admission to the ASVT.

Also notable: successful completion (“C” grade or better) of Vet Tech courses is 88%.

The number of graduates produced by the Veterinary Assisting and Veterinary Technology programs has increased steadily and significantly over the past three academic years (Table 1). When compared to AY 2013-2014, the number of CAVETA certificates awarded has increased by 50% whereas the number of A.S. degrees awarded increased by 14%. When divided by the number of program majors (Table 2), this results in graduation rates of 64% and 92%, respectively.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Certificates Awarded</td>
<td>4</td>
<td>10</td>
<td>6</td>
<td>27</td>
<td>24</td>
<td>36</td>
<td>107</td>
</tr>
<tr>
<td>A.S. Degrees Awarded</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>48</td>
</tr>
</tbody>
</table>

9. Evidence of Quality

The WCC Veterinary Technology program undergoes regular evaluation by faculty and WCC administration. The ASVT also undergoes a comprehensive evaluation by the American Veterinary Medical Association. Following a March 2013 site visit by AVMA personnel, WCC’s ASVT was granted provisional accreditation by the AVMA (later reclassified as “initial accreditation.” This reflects WCC’s rigor and high standards of practice. In its visit summary, the accreditation team commended the program on its efforts to provide a comprehensive training program that prepares graduates for entry
into the local veterinary workforce. As part of the accreditation report (Appendix 10), the team also outlined 20 recommendations which have served as basis for continued program improvement (Table 2). In follow-up reports (Appendix 11), the AVMA has indicated that the WCC Veterinary Technology program has satisfied 15 of the 20 recommendations. Prior to the next site visit in March 2018, WCC and the ASVT faculty will continue working to address the remaining 5 recommendations. Over the next two years, we will work to ensure that the program is on track to be granted full accreditation.

Table 2. Summary of AVMA recommendations from the March, 2013 site visit

<table>
<thead>
<tr>
<th>Critical Recommendations</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ensure that the facility is OSHA compliant</td>
<td>Met</td>
</tr>
<tr>
<td>2. Reformat DEA logs to meet AVMA standards</td>
<td>Met</td>
</tr>
<tr>
<td>3. Ensure that medical logs emulate those of a contemporary veterinary practice</td>
<td>Met</td>
</tr>
<tr>
<td>4. Students complete the curriculum in its entirety</td>
<td>Met</td>
</tr>
<tr>
<td>5. Provide evidence that clinical skills have been performed and are evaluated using standardized criteria</td>
<td>Met</td>
</tr>
<tr>
<td>6. Outcomes must be assessed using student performance on VTNE and program-specific surveys of students and employers. The results of this assessment should be used for program improvement.</td>
<td>In Progress</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Major Recommendations</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ensure that increases in the numbers of students admitted to the program be accompanied by appropriate increases in fiscal, human, and clinical resources.</td>
<td>Met</td>
</tr>
<tr>
<td>2. Construct a veterinary clinical facility that meets program needs</td>
<td>Met</td>
</tr>
<tr>
<td>3. A sheet of dosages for emergency drugs should be included in the crash cart.</td>
<td>Met</td>
</tr>
<tr>
<td>4. MOUs with critical large animal facilities should be amended to include exit strategies.</td>
<td>In Progress</td>
</tr>
<tr>
<td>5. Expand library holdings of veterinary books and periodicals</td>
<td>Met</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Minor Recommendations</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Purchase a dental x-ray and ultrasound</td>
<td>Partially met</td>
</tr>
<tr>
<td>(no ultrasound)</td>
<td></td>
</tr>
<tr>
<td>2. Institute electronic recordkeeping using standard practice software</td>
<td>Met</td>
</tr>
<tr>
<td>3. Controlled substances logs must be bound and have sequentially numbered pages to prevent alteration.</td>
<td>Met</td>
</tr>
<tr>
<td>4. Create individual medical records for all animals used by the program.</td>
<td>Partially met</td>
</tr>
<tr>
<td>5. Create an emergency plan for facility animals.</td>
<td>Met</td>
</tr>
<tr>
<td>6. Acquire additional models for use in clinical- and anatomy labs.</td>
<td>Met</td>
</tr>
<tr>
<td>7. Create a formal student association which is associated with NAVTA, etc.</td>
<td>Met</td>
</tr>
<tr>
<td>8. All personnel should be members of appropriate state and national professional associations.</td>
<td>Partially met</td>
</tr>
<tr>
<td>9. Program personnel should be encouraged and financially supported to attend continuing education meetings.</td>
<td>Met</td>
</tr>
</tbody>
</table>

Summary: Met (15), Partially Met (3), In progress/Unmet (2)

Program graduates have excelled in meeting credentialing standards and obtaining employment in the local workforce. In addition to completing all program courses with a “C” grade or better, program graduates must pass the **Veterinary Technician National Exam** (VTNE) in order to become credentialed. The VTNE evaluates student aptitude and knowledge in a total of nine domains, including pharmacology, nursing, surgical nursing, anesthesiology, pain management, dentistry, diagnostic imaging, emergency and critical care, and diagnostic laboratory procedures. As of March, 2015, a total of 21 graduates (or
>90% of those eligible) have taken the exam (Table 3). The overall pass-rate for first-time graduates is 81%, which is more than 10% above the national average.

Table 3. Number of WCC Vet Tech Graduates who have taken and passed the VTNE

<table>
<thead>
<tr>
<th>Annual VTNE Data</th>
<th>Academic Year</th>
<th></th>
<th></th>
<th>Totals or Mean (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td># of first-time test takers</td>
<td>3</td>
<td>18</td>
<td>17</td>
<td>38</td>
</tr>
<tr>
<td># first-time candidates passing VTNE</td>
<td>2</td>
<td>15</td>
<td>13</td>
<td>30</td>
</tr>
<tr>
<td>% of Graduates Taking Exam</td>
<td>100.0%</td>
<td>85.7%</td>
<td>71%</td>
<td>79%</td>
</tr>
<tr>
<td>Annual VTNE Pass Rate</td>
<td>66.7%</td>
<td>83.3%</td>
<td>76%</td>
<td>79%</td>
</tr>
</tbody>
</table>

WCC graduates scored markedly above national averages in eight of the nine domains of the VTNE (Table 4). In particular, they scored >24% above national averages for the pharmacology and dentistry domains, which is a testament to the excellent preparation they received in program classes.
Employment rates for program graduates are also quite favorable. The 2015 survey of ASVT graduates indicate that 23 of 24 graduates (95.8%) are currently employed in the veterinary industry. Together, these data indicate that the WCC Veterinary Technology program has succeeded at its primary goal of producing graduates who can meet credentialing standards and fulfill local workforce needs. In addition to the above evaluations of program effectiveness, program faculty conduct regular and ongoing assessments of course outcomes (see Appendix 9 for examples). The results of these assessments are used to continually revise curriculum to better meet course goals and the educational needs of our students.

10. Program Budget

A detailed budget for the A.S. in Veterinary Technology is included in Appendix 8. Direct program costs for AY 2015-2016 include instructional costs ($232,075), casual hire for laboratory support ($7,950) and funds to cover lab supplies, maintenance contracts, IACUC inspection fees, and program accreditation ($40,000). Total direct cost for the program is $280,025.

The primary sources of revenue for the program come from student tuition ($234,240) and professional fees ($29,600). These amounts are estimated based on a projected SSH of 1,920. Given this, the net cost for the program for AY 2015-2016 is estimated to be $16,185. Once employee fringe, campus-, and system support are included, the cost for the program comes to $591/credit hour. Although this expenditure is much greater than that for general academic instruction at WCC ($134/SSH), it is
comparable to other health-related programs in the UHCC system (e.g., HonCC: $537, KapCC: $475, HawCC: $878, UHMC: $509, KauCC: $834).

11. Cost to Students

Table 5. Estimate of student costs for A.S. in Veterinary Technology for AY 2016-2017. This estimate incorporates possible increase in professional fees of $100/semester.

<table>
<thead>
<tr>
<th>Associates of Science Degree in Veterinary Technology</th>
<th>Year 1: Vet Assisting</th>
<th></th>
<th>Year 2: Vet Tech</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fall</td>
<td>Spring</td>
<td>Summer</td>
</tr>
<tr>
<td>Tuition* Resident: # of credits x $120</td>
<td>Resident 15</td>
<td>Resident 16</td>
<td>Resident 7</td>
</tr>
<tr>
<td></td>
<td>x $120</td>
<td>x $120</td>
<td>x $120</td>
</tr>
<tr>
<td></td>
<td>$1,800</td>
<td>$1,920</td>
<td>$840</td>
</tr>
<tr>
<td>Non-Resident: # of credits x $328</td>
<td>Non-Resident 15</td>
<td>Non-Resident 16</td>
<td>Non-Resident 7</td>
</tr>
<tr>
<td></td>
<td>x $328</td>
<td>x $328</td>
<td>x $328</td>
</tr>
<tr>
<td></td>
<td>$4,920</td>
<td>$5,248</td>
<td>$2,296</td>
</tr>
<tr>
<td>WCC Student Fees (activity, publications)</td>
<td>$20</td>
<td>$20</td>
<td>—</td>
</tr>
<tr>
<td>Professional Fees</td>
<td>$200</td>
<td>$200</td>
<td>$400</td>
</tr>
<tr>
<td>Textbooks</td>
<td>$400</td>
<td>$400</td>
<td>$200</td>
</tr>
<tr>
<td>Uniforms &amp; Stethoscope</td>
<td>$150</td>
<td>—</td>
<td>$100</td>
</tr>
<tr>
<td>Credentialing Exam (VTNE)</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Total Per Semester</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Resident</td>
<td>$2,570</td>
<td>$2,540</td>
<td>$1,540</td>
</tr>
<tr>
<td>Non-Resident</td>
<td>$5,690</td>
<td>$5,868</td>
<td>$2,996</td>
</tr>
<tr>
<td>Total for Program</td>
<td>Resident $12,480</td>
<td>Non-Resident $27,040</td>
<td></td>
</tr>
</tbody>
</table>

*Tuition is based on the 2015-2017 school year. Please see current tuition schedule online for subsequent years. All fees listed above are estimated and maybe subject to change by the University. Textbook costs may vary depending on if they are used or new. This program qualifies for Federal Financial Aid (FAFSA). Financial Aid links: www.fafsa.ed.gov and https://windward.hawaii.edu/Financial_Aid/
The total cost of the program for students is estimated at $12,480 and $27,040 for resident- and non-residents, respectively (Table 5). This cost includes tuition for both the Certificate of Achievement in Veterinary Technology (year 1) and the A.S. in Veterinary Technology (year 2). In addition to tuition, students enrolled in the program pay professional fees each semester to cover the cost of lab supplies, professional liability insurance, and accreditation fees. These fees are currently $100/semester for year 1 and $300/semester for year 2; however, the program may request that the fees be increased by $100 per year (to $200/semester for year 1 and $400/semester for year 2 to cover increased costs of supplies used in lab and clinical courses.) If approved, students completing the program will pay a total of $1,600 in professional fees over the course of five semesters. Other costs for the program include textbooks ($1,850), uniforms and a stethoscope ($250), and fees for the VTNE credentialing exam ($300).

Despite the length of the program (five semesters) and inclusion of professional fees, the total cost of the A.S. in Veterinary Technology appears to be quite reasonable when compared to similar programs in the UHCC system (Table 6). In fact, the cost of the program for residents is 7% lower than the mean for the seven other programs surveyed ($13,390). Thus, given the comparatively low program cost and high demand for veterinary technicians in the local workforce, we believe the A.S. in Veterinary Technology is a good value for students who are interested in pursuing jobs in the veterinary industry.

Table 6. Comparison of program fees and total program costs for eight allied-health A.S. degrees in the UHCC system. This table includes the proposed fee increases for the A.S. in Veterinary Technology ($200/semester for year 1 and $400/semester for year 2) and is sorted by total program costs (right-most column) for Hawaii residents.

<table>
<thead>
<tr>
<th>Program</th>
<th>School</th>
<th>Prereq Sem</th>
<th>Prereq Credits</th>
<th>Program Sem</th>
<th>Program Credits</th>
<th>Total Sem</th>
<th>Total Credits</th>
<th>Prereq Tuition</th>
<th>Program Tuition</th>
<th>Student Fees</th>
<th>Total Program Fees</th>
<th>Fees</th>
<th>Liability</th>
<th>Uniform</th>
<th>Other</th>
<th>Total In-state</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rad Tech (AS)</td>
<td>KCC</td>
<td>2</td>
<td>21</td>
<td>6</td>
<td>71</td>
<td>18</td>
<td>92</td>
<td>2520</td>
<td>8520</td>
<td>210</td>
<td>1800</td>
<td>2450</td>
<td>30</td>
<td>300</td>
<td>300</td>
<td>$16,130</td>
</tr>
<tr>
<td>Respiratory Care Practitioner (AS)</td>
<td>KCC</td>
<td>2</td>
<td>30</td>
<td>7</td>
<td>72</td>
<td>9</td>
<td>102</td>
<td>3600</td>
<td>8640</td>
<td>270</td>
<td>1750</td>
<td>1800</td>
<td>30</td>
<td>0</td>
<td>0</td>
<td>$16,090</td>
</tr>
<tr>
<td>Nursing (AS)</td>
<td>KCC</td>
<td>2</td>
<td>35</td>
<td>4</td>
<td>45</td>
<td>6</td>
<td>80</td>
<td>4200</td>
<td>5400</td>
<td>60</td>
<td>2000</td>
<td>1873</td>
<td>30</td>
<td>517</td>
<td>1329</td>
<td>$15,409</td>
</tr>
<tr>
<td>Medical Intensive Care Tech (AS)</td>
<td>KCC</td>
<td>1</td>
<td>18</td>
<td>4</td>
<td>57</td>
<td>5</td>
<td>75</td>
<td>2160</td>
<td>6840</td>
<td>180</td>
<td>645</td>
<td>900</td>
<td>30</td>
<td>1716</td>
<td>650</td>
<td>$13,121</td>
</tr>
<tr>
<td>Veterinary Technology (AS)</td>
<td>WCC</td>
<td>0</td>
<td>5</td>
<td>70</td>
<td>5</td>
<td>70</td>
<td>8400</td>
<td>100</td>
<td>1600</td>
<td>250</td>
<td>750</td>
<td>1843</td>
<td>0</td>
<td>250</td>
<td>300</td>
<td>$12,493</td>
</tr>
<tr>
<td>Physical Therapy Assistant (AS)</td>
<td>KCC</td>
<td>2</td>
<td>29</td>
<td>3</td>
<td>43</td>
<td>5</td>
<td>72</td>
<td>3480</td>
<td>5160</td>
<td>165</td>
<td>900</td>
<td>1950</td>
<td>15</td>
<td>100</td>
<td>0</td>
<td>$11,770</td>
</tr>
<tr>
<td>Medical Laboratory Technician (AS)</td>
<td>KCC</td>
<td>1</td>
<td>16</td>
<td>4</td>
<td>55</td>
<td>5</td>
<td>71</td>
<td>1920</td>
<td>6600</td>
<td>150</td>
<td>1100</td>
<td>1165</td>
<td>30</td>
<td>0</td>
<td>0</td>
<td>$10,965</td>
</tr>
<tr>
<td>Occupational Therapy Assistant (AS)</td>
<td>KCC</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>70</td>
<td>6</td>
<td>70</td>
<td>8400</td>
<td>8400</td>
<td>0</td>
<td>750</td>
<td>75</td>
<td>0</td>
<td>0</td>
<td>75</td>
<td>$10,245</td>
</tr>
</tbody>
</table>

12. Adequacy of Program Resources

Development of the WCC Veterinary Technology program was funded through grants (Perkins Funds, C3T, and a Rural Development Grant), an internal reallocation of vacant faculty positions, and system Capitol Improvement Project (CIP) funds. These revenue sources were used for new faculty positions, to construct a clinical instruction facility, and to purchase equipment for classroom- and clinical instruction. Supplies- and accreditation costs have been partially offset by professional program fees. A discussion of essential program resource is included below.
a. **Faculty:** AVMA regulations require each program to be staffed, at minimum, with 1 FTE Veterinarian and 1 FTE Veterinary Technician. These individuals are responsible for teaching classes, administering the program, and maintaining compliance with AVMA and local agencies. Currently, two full-time faculty are employed with the program: an 11-month Veterinarian (DVM) who functions as the Program Director and an 11-month Veterinary Technician (RVT) instructor. The workload for the Program Director is split evenly between administration and teaching, whereas that of the Technician is purely instructional. In addition, full-time faculty from other disciplines (Math and Health) teach related core courses (equivalent to 0.333 FTE). Still, most core courses (55 total credits and 83.5 contacts) are currently taught by adjunct faculty providing the program a measure of flexibility in scheduling as well as staffing difficulties similar to what is experienced by health profession programs Systemwide (Table 7).

<table>
<thead>
<tr>
<th>Faculty Type</th>
<th>Classes</th>
<th>Credits</th>
<th>Contacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecturer</td>
<td>23</td>
<td>55</td>
<td>83.5</td>
</tr>
<tr>
<td>Full-Time</td>
<td>16</td>
<td>30</td>
<td>43.5</td>
</tr>
<tr>
<td>Total</td>
<td>39</td>
<td>85</td>
<td>127</td>
</tr>
<tr>
<td>% Lecturer</td>
<td>58.97%</td>
<td>64.71%</td>
<td>65.75%</td>
</tr>
<tr>
<td>FTE Lecturer (9-mo)</td>
<td>2.04</td>
<td></td>
<td>2.78</td>
</tr>
<tr>
<td>% Lect classes w/ Animals</td>
<td>56.52%</td>
<td>50.91%</td>
<td>65.27%</td>
</tr>
<tr>
<td>% FT classes w Animals</td>
<td>37.50%</td>
<td>20.00%</td>
<td>34.48%</td>
</tr>
</tbody>
</table>

Many of the courses require instructors with high-demand skills (e.g., veterinary surgery) and involve a significant degree of professional liability and out-of-class time to complete required training (IACUC, Biological Safety, Blood Borne Pathogens) and care for animal patients used by the program. For example, a typical five-hour surgery lab usually requires eight hours of instructor time to prep the lab, examine the patients, and ensure that they are sufficiently recovered from their procedures prior to discharge. The program has experienced substantial turnover in the ranks of its adjunct instructors over the past three years. Based on the above data, the number of full-time faculty may be insufficient to maintain program health and accreditation with the AVMA. The college is working to address this staffing imbalance. To further address these needs, the program has requested two additional positions (1 FTE Veterinarian & 1 FTE Veterinary Technician, 9-month) through the WCC Planning and Budget Council.

b. **On-Campus Facilities:** During the Spring of 2014, Windward Community College completed construction on a state-of-the-art veterinary clinical facility for program use. Construction of the facility was funded using CIP monies ($2.1M). The 2,000 sf facility (Figure 1. Floor plan of
the newly-constructed Veterinary Technology Annex was designed to emulate a modern veterinary hospital and meet USDA requirements. The clinic includes a spacious treatment area, surgical suite, radiology (x-ray) room, and separate kennel areas for dogs and cats. The facility can accommodate a maximum of 12 students and two instructors, and is the primary classroom for several program classes.

Other instructional space utilized by the program includes standard lecture classrooms (25-35 student capacity), computer lab (20 student capacity) and a biological science laboratory. Overall, current instructional space is adequate for the program. Two additional items will need to be purchased to bring the program into full compliance with regulatory agencies: 1) an industrial **backup generator** ($40,000) to supply the facility in the event of an extended power failure and 2) a remote monitoring system ($300) to alert users of temperature and humidity changes in the kennel areas when animals are kept overnight.

c. **Equipment:** To align with AVMA requirements, the program purchased an extensive inventory of equipment and durable supplies to be used in teaching program classes. These purchases (ca. $500,000) were funded through Perkins and C3T grants. The inventory includes surgical instruments, anesthesia machines, dental machines, mobile exam lights, recovery cages, cat condos, hematology machines, vital signs monitors, digital x-ray equipment, and many other items. Equipment inventory is sufficient to teach program classes.

d. **Professional Fees:** As discussed previously, the ASVT charges professional fees ($100/semester for year 1 students and $300/semester for year 2 students) to cover the costs of consumable supplies (drugs, bandaging material, etc.) IACUC inspection fees, equipment maintenance and service contracts, casual hire support for surgical labs, and accreditation costs.

e. **Veterinary Preceptor Clinics:** The Veterinary Technology program has enlisted 25 Oahu veterinary clinics to serve as preceptors for program students (the AVMA requires that program students intern at local clinics for a minimum of 240 hours). Not only do these internships provide students real-world experience in the veterinary field, but they also encourage industry buy-in and serve as a bridge to future employment. As a result of these partnerships, >90% of the 2015 graduating class were offered employment in the veterinary industry. The number of veterinary preceptors is sufficient for the program.
13. Conclusion and Action Plan

The mission of the Associate in Science in Veterinary Technology is wholly congruent with the educational goals of the College and UH system. Student demand for the program remains high (100% capacity for the past two years) and efficiency and effectiveness indicators are satisfactory. The high VTNE pass-rate and employment rate for program graduates likewise indicate that the degree continues to meet the needs of both students and local employers. The cost of attendance for students is reasonable. Given the favorable job prospects for program graduates, the A.S. in Veterinary Technology represents a good educational value for students who are interested in pursuing jobs in the veterinary industry. Although the instructional costs for the program are much higher than that of the A.A. degree at WCC, total program costs are comparable to other allied-health programs in the UHCC system. Additionally, infrastructure (facilities and equipment) and support (veterinary preceptor clinics) needed to sustain the program are already in place. With the addition of more full-time faculty, the program will be able to further improve its current level of success in the years to come.

Figure 1. Floor plan of the newly-constructed Veterinary Technology Annex.
Given this, we request that the program be moved from “Provisional” to “Established” status.

If approved, we plan to implement the following changes in order to ensure the continued success and sustainability of the program:

1. **Request additional faculty positions:** We believe the current faculty and staff allocation is insufficient and plan to request one to two additional positions (1 FTE veterinarian instructor and 1 FTE Technician APT) through the campus PBC committee. This is driven by ongoing challenges with staffing for lecturers.

2. **Increase Professional Fees:** In order to ensure that the program has adequate funds for service contracts, inspection fees, and consumable supplies, we will consider a future request to the BOR to increase professional fees by $100 per semester.

3. **Perform Program Surveys:** We will design and administer additional surveys of program students, graduates, and employers. The results of these surveys will be used to further maximize student success.

4. **Offer CAVETA classes to neighbor-island students:** In January 2016 we will offer a hybrid CAVETA program to place-bound students on the island of Maui. If this pilot project is successful, we may be able to expand the program to other islands and eventually offer the A.S. degree to neighbor island students as well.

5. **Prepare for future accreditation visits:** The WCC Vet Tech Program is scheduled to have its next AVMA site visit in Spring 2018. In order to ensure a favorable decision, the program will conduct ongoing comprehensive review and prepare a self-study report in the Spring 2017 semester.
Appendix 1. Job Outlook for Veterinary Technicians
(From 2012 Bureau of Labor Statistics Survey)

Veterinary Technologists and Technicians

Summary

- **Quick Facts: Veterinary Technologists and Technicians**

  - **2012 Median Pay**: $30,290 per year, $14.56 per hour
  - **Entry-Level Education**: Associate's degree
  - **Work Experience in a Related Occupation**: None
  - **On-the-Job Training**: None
  - **Number of Jobs, 2012**: 64,000
  - **Job Outlook, 2012-22**: 31% (Much faster than average)
  - **Employment Change, 2012-22**: 20,000

**What Veterinary Technologists and Technicians Do**
Veterinary technologists and technicians perform medical tests under the supervision of a licensed veterinarian to help diagnose the illnesses and injuries of animals.

**Work Environment**
Veterinary technologists and technicians work in private clinics, laboratories, and animal hospitals. Their jobs may be physically or emotionally demanding. Many work evenings, weekends, or holidays.

**How to Become a Veterinary Technologist or Technician**
Veterinary technologists and technicians must complete a postsecondary program in veterinary technology. Technologists need a 4-year bachelor's degree, and technicians need a 2-year associate's degree. Typically, both technologists and technicians must take a credentialing exam and must become licensed, licensed, or certified, depending on the requirements of the state in which they work.

**Pay**
The median annual wage for veterinary technologists and technicians was $30,290 in May 2012.

**Job Outlook**
Employment of veterinary technologists and technicians is projected to grow 30 percent from 2012 to 2022, much faster than the average for all occupations. Employment will grow as more veterinarians utilize technologists and technicians to do general care and lab work, and as they continue to replace lower skilled veterinary assistants.

**Similar Occupations**
Compare the job duties, education, job growth, and pay of veterinary technologists and technicians with similar occupations.

**More Information, Including Links to O*NET**
Learn more about veterinary technologists and technicians by visiting additional resources, including O*NET, a source on key characteristics of workers and occupations.
Appendix 2. Selected Articles Regarding the Shortage of Veterinary Technicians

The truth about the technician shortage

Will low salaries and high turnover threaten this career?

Aug 1, 2008 The Bureau of Labor Statistics (BLS) ranks veterinary technology as one of the fastest growing careers. In fact, it estimates a 41 percent growth by 2016. Yet AAHA's newly released Compensation and Benefits, Fifth Edition, indicates turnover may take a bite out of the profession. Their research shows turnover is almost 30 percent in veterinary practices, compared to a national average of between 12 percent and 15 percent across all industries in the United States. And when they focused on technicians, the rate of turnover climbs to 35 percent.

About 83 percent of NAVTA members say they'll probably or definitely stay in the profession, according to the 2007 NAVTA National Demographic Survey. And about 15 percent report they'll probably or definitely change to another field. This mirrors the results from the 2008 Firstline Professional Growth Study (see Figure 1). Yet 79 percent of NAVTA members and 85 percent of nonmembers agree or strongly agree that veterinary technicians are so underpaid that the feasibility of staying in the profession is declining (see Figure 3).

For those who plan to leave, where do they plan to go? See Figure 2 to learn more about technicians' intentions. Will technicians stay?

As the BLS notes, it may be difficult to make up the difference with new graduates. A look at the numbers of technician candidates taking the Veterinary Technician National Exam shows growth is flat. The American Association of Veterinary State Boards, the organization that administers the test, reports 5,425 candidates in 2006 and 4,664 in 2007. 2008 estimates put the number of candidates at 5,200.

So what does this all mean? "We've got some great jobs, but we've got to step it up," says Firstline Editorial Advisory Board member Sheila Grosdidier, BS, RVT, a partner at VMC Inc. in Evergreen, Colo. "We're not just competing with other veterinary clinics for good personnel. We're competing with all other industries for good personnel."
Letters to the Editor

Concerned about increasing veterinary technician shortage

Because veterinary technicians are essential personnel in private and academic veterinary practices and there is a nationwide shortage of veterinary technicians, we are alarmed by the decision of the American Association of Veterinary State Boards (AAVSB) to limit eligibility for the Veterinary Technician National Examination (VTNE). On-the-job-trained technicians will be prohibited from taking the VTNE starting in 2011. Coupled with state laws that permit only licensed technicians to perform essential duties, the AAVSB's action may substantially limit the ability of veterinary hospitals to serve patients and clients' needs.

According to the AAVSB, about 5,000 people will take the VTNE this year, some of whom are from the United States and some of whom are from Canada. The pass rate is 64%. According to Drs. Leff and Sabin, who work with the AVMA's Committee on Veterinary Technician Education and Activities, the approximately 160 AAVSB-accredited schools of veterinary technology graduate fewer than 3,000 students annually (averaging 18 graduates/school annually). When the AAVSB's rules come into effect in 2011, the number of people eligible to take the VTNE will be reduced from the already inadequate number.

How many technicians does it take to support veterinarians? There are approximately 88,000 veterinarians in clinical practice in the United States. Most practices need at least 1 to 2 technicians/veterinarian. Approximately 15% of veterinarians drop out of the field annually, so we need to train and hire approximately 20,000 new technicians just to stay as we are and more if we want to grow. The Bureau of Labor Statistics projects that demand for graduate technicians will significantly outstrip the number of new graduates over the next 10 years.

Technicians perform essential hospital (and research and public health) functions. They deserve wages, benefits, and respect commensurate with the vital work they do. It behooves veterinarians to work to enhance the skills, education, professional stature, and career longevity of veterinary technicians. The number of veterinary technician schools must increase, and the graduation rate of programs must improve. The high cost of a technical degree, which bars many worthy people from pursuing this great career, is also an issue.

Now and for the foreseeable future, there are not enough technician school graduates to serve the public and the health needs of animals. Where passing the VTNE determines licensure or certification, and licensure or certification determines eligibility to perform veterinary technician duties, there is and will be an increasingly severe shortage of technicians. These shortages may lead veterinarians to violate state law by using unlicensed technicians or force them to perform all the technical duties themselves. Either situation is unacceptable.

We urge the AVMA and other veterinary organizations to work with technician organizations and the AAVSB to further technician excellence and develop an adequate and rewarded workforce. We urge the AVMA and the AAVSB to consider the mathematical impossibility of graduating and licensing a sufficient number of technicians until the number of AVMA-accredited schools increases 5- to 10-fold, which cannot happen by 2011. Alternative training and licensure pathways must remain viable past 2011.

David Schwartz, DVM
President, Massachusetts Veterinary Medical Association

Laurie Klein, DVM
Chair, MVMA Veterinary Technician Committee

Susan Weinstein, JD
Executive Director, MVMA

Susan Rebaut, DVM
Past President, MVMA

Bob Mutsaers, DVM, DACVM, DACVECC
Holliston, Mass

Timothy Smith, DVM, DACVP
Webster, Mass

a. Daniels C. Administrator, Veterinary Technician National Examination, Kansas City, Mo: Personal communication, 2008.


The AVMA responds:

The AVMA Committee on Veterinary Technician Education and Activities (CVTEA), and staff of the AVMA Education and Research Division that support the CVTEA, share concerns raised by the representatives from the Massachusetts Veterinary Medical Association. A minor correction: the letter states, "according to Drs. Leff and Sabin, who work with the AVMA's Committee on Veterinary Technician Education and Activities, the approximately 160 AAVSB-accredited schools of veterinary...

Instructions for Writing a Letter to the Editor

Readers are invited to submit letters to the editor. Letters may not exceed 500 words and 6 references. Not all letters are published; all letters accepted for publication are subject to editing. Those pertaining to anything published in the JAVMA should be received within one month of the date of publication. Submission via e-mail (JournalLetters@avma.org) or fax (630-925-9329) is encouraged; authors should give their full contact information, including address, daytime telephone number, fax number, and e-mail address.

Letters containing inflammatory, libelous, or malicious statements will not be published, nor will letters representing attacks on or attempts to domain veterinary societies or their committees or agencies. Viewpoints expressed in published letters are those of the letter writers and do not necessarily represent the opinions or policies of the AVMA.

# Appendix 3. 2012 Wages for Veterinary Office Personnel

Median hourly and annual income for veterinary office personnel. Data from:


<table>
<thead>
<tr>
<th>Position</th>
<th>Median Hourly Wage</th>
<th>Median Annual Wage</th>
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<tr>
<td>Veterinarian</td>
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<tr>
<td><strong>Veterinary Technicians/ Technologists</strong></td>
<td><strong>$14.56</strong></td>
<td><strong>$30,290</strong></td>
</tr>
<tr>
<td>Veterinary Assistants</td>
<td>$11.12</td>
<td>$23,130</td>
</tr>
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</table>
Appendix 4. Proposed Admissions Procedures

A. Admission Application Period

VETT Admissions policy: Students wishing to enroll in the second year courses must apply. Applications are due by March 1st and can be turned in to the Admissions and Records Office. There will be up to 24 students accepted into the VETT program. See the list of requirements below, for more information speak with VETT faculty or visit:


B. Minimum Requirements

1) In order to meet the minimum requirements for admission, the student must complete a minimum of 10 credits of the Certificate of Achievement in Veterinary Assisting (CAVETA) Core Courses and three credits of the required General Education Courses by the admissions deadline.

2) All of the Core courses and General Education courses must be completed with a “C” grade or better.

3) A cumulative grade point ratio (GPR) of 2.5 for all Core and General Education courses taken is required.

4) All courses transferred to Windward Community College that have a credit/no credit or pass/fail will be given a grade of “C” for ranking purposes when applying to the Veterinary Technology Program.

5) Applicants who have not yet completed all Core CAVETA courses must be enrolled in these courses during the semester in which the application is submitted.

6) Applicants who have not yet completed all required General Education Classes must be enrolled in these classes during the Spring or following Summer semester.

7) Applicants are required to submit two letters of recommendation along with their application.

8) All applicants who meet the minimum requirements for admission will be interviewed by the Veterinary Technology Admissions Committee between the last week of March and first week of April.

C. Acceptance Criteria

Applications that meet the minimum admissions requirements will be evaluated on a best-qualified basis by the program admissions committee. The admissions committee will include veterinary technology program faculty (2 members), a WCC counselor (1 member), and two members of WCC’s Veterinary Technology Advisory Committee. Applicants will be ranked on a point scale based on the following criteria:

1) Number of CAVETA Core and General Education courses completed with a grade of C or better by the application deadline;

2) GPA for completed CAVETA Core and required General Education courses;

3) Letters of recommendation;

4) Clinical Aptitude (as determined by skills performance in ANSC 151L and ANSC 152L or equivalent);

5) Documentation of previous veterinary-related work experience or training;
6) Strength of applicant interview.
7) Employability & Professionalism

The program director will inform applicants of their admission status in writing during the second week of April.

D. Post-Acceptance Requirements
Accepted students will receive a program packet which includes forms and procedures that must be completed prior to registration. These steps include:

1) A **tuberculosis clearance** within the past 12 months.
2) **Tetanus** vaccination within the past 10 years.
3) Verification of personal **health insurance**.
4) Health Risk Acknowledgement form.
5) Internship Liability Waiver.
6) Acknowledgement of ability to perform **program technical standards**.
7) Obtain and print a recent (within last 30 days) **Criminal Clearance Check**.
8) Purchase a program uniform.

Once all requirements have been met, the student will be cleared to register for Veterinary Technology classes. Accepted students who have not yet completed all CAVETA requirements will be admitted on a provisional basis. These students are expected to complete all remaining Core- and General Education CAVETA requirements by the first day of the fall semester. Failure to do so may result in dismissal from the program. Please keep in mind that Veterinary Technology Students are expected to enroll in Veterinary Technology Core Courses (e.g., ANSC 252-Diagnostic Imaging and ANSC 190- **Veterinary Clinical Practices & Internship I**) during the summer semester following admission, thus it is unlikely that a student will have adequate time to make-up more than one course deficiency during the summer session.
Appendix 5. Descriptions of Core Courses

ANSC 140- Introduction to Veterinary Technology (3 credits)
This course introduces students to the field of veterinary technology and describes the responsibilities and expectations for students enrolled in the program. Topics include: roles of the veterinary team members, legal and ethical aspects of veterinary practice, breeds of companion animals, safety, sanitation and waste-disposal protocols, and career fields in veterinary medicine.

ANSC 142- Anatomy & Physiology of Domestic Animals (3 credits)
Introduction to the anatomy and physiology of domestic animals. Compares the anatomy and function of major body systems for the cat, dog and horse, with lesser emphasis on birds, reptiles and amphibians. This course is intended for students entering veterinary technology, veterinary assisting or other animal-related fields.

ANSC 142L- Anatomy of Domestic Animals Laboratory (1 credit)
Laboratory to accompany ANSC 142. This course is designed to acquaint the student with the body systems of common domestic species (e.g., cats, dogs, horses and birds) through dissections, examinations of models, laboratory exercises, and other hands-on activities. This course is intended for students entering veterinary technology, veterinary assisting or other animal-related fields.

ANSC 151- Clinical Lab Techniques (3 credits)
Provides students with the background knowledge needed to perform and interpret laboratory techniques commonly used in veterinary practice. Topics include: Homeostatic relationships, cytology, histology, parasitology and clinical physiology of major body systems. Includes a discussion of common disorders affecting major body systems and the techniques used for diagnosis. This course is intended for students entering veterinary technology, veterinary assisting or other animal-related fields.

ANSC 151L- Clinical Lab Techniques Laboratory (1 credit)
Laboratory to accompany ANSC 151. Provides students with the knowledge and skills necessary to perform common veterinary lab tests including urinalysis, hematology, blood chemistry, cytology and parasitology. This course is intended for students entering veterinary technology, veterinary assisting or other animal-related fields.

ANSC 152- Companion Animal Diseases & Nutrition (3 credits)
An introduction to the husbandry and medical care of companion animals. Topics include canine and feline life cycles (including breeding, pregnancy and parturition), housing and nutritional needs, exam procedures and medical recording, nursing and wound management, and identification and treatment of common diseases. This course is intended for students entering veterinary technology, veterinary assisting, or other animal-related fields.

ANSC 152L- Companion Animal Nursing (1 credit)
This course provides students with hands-on training in basic companion-animal exam and nursing skills. Topics include: animal restraint methods, medical charting and patient exam procedures, specimen collection, administration of medications, grooming and husbandry. This course is intended for students entering veterinary technology, veterinary assisting or other animal-related fields.
ANSC 190- Veterinary Clinical Practices & Internship I (3 credits)
Practical animal experience at veterinary clinics, zoos, research labs or other animal facilities. Topics covered may include restraint procedures, venipuncture, obtaining vital signs, radiological techniques, surgical assisting and animal husbandry. This course is intended for students entering veterinary technology, veterinary assisting or other animal-related fields.

ANSC 191: Veterinary Office and Computer Skills (3 credits)
Veterinary Office and Computer Skills covers the support skills needed in a veterinary office. Because veterinary office skills are critical in the success or failure of a practice, this course will emphasize the following: client communication, public relations, ethical and legal procedures, bookkeeping functions, scheduling, records management, and telephone skills. Students will be introduced to one or more industry-standard veterinary software programs as well as word processing and spreadsheet software.

ANSC 252- Diagnostic Imaging for Veterinary Technicians (3 credits)
This course trains students to safely and effectively use X-Ray technology to obtain diagnostic radiographs of the skeletal- and soft anatomy of companion animals. Students are also given an overview of alternative imaging techniques (ultrasound, CT Scans, and digital radiography) as well as an introduction to the radiography of large animals and exotics. This course is intended for students entering veterinary technology, veterinary assisting or other animal-related fields.

ANSC 252L- Diagnostic Imaging for Veterinary Technicians Lab (1 credit)
This lab trains students to safely and effectively use x-ray technology to obtain diagnostic radiographs of the skeletal- and soft anatomy of companion animals.

ANSC 253-Pharmacology for Veterinary Technicians (3 credits)
This course is designed to give students a practical knowledge of drugs used in veterinary medicine. Topics include drug classification, methods of action, calculations, administration, effects and side effects. Also includes a discussion of client education, drug safety, and federal regulations governing the purchase and storage of controlled drugs. Upon successful completion, students will be able to properly calculate, dispense, and administer medications, recognize adverse reactions and maintain pharmaceutical inventory and administrative records. This course is intended for students entering veterinary technology, veterinary assisting, or other animal-related fields.

ANSC 258- Clinical Lab Techniques II (3 credits)
A continuation of ANSC 151 & 151L, this course provides students with additional instruction and hands-on experience with laboratory tests commonly used in veterinary practice. Topics include: 1) identification of internal parasites 2) performance and evaluation of microbiologic and serologic tests, 3) collection & evaluation of cytological samples 4) veterinary necropsy procedures. Included in this course is a review of the anatomy and physiology of major body systems and an overview of common diseases seen in veterinary practice. This course is intended for students entering veterinary assisting, veterinary technology or other animal-related fields.

ANSC 258L- Clinical Lab Techniques II Laboratory (1 credit)
Laboratory to accompany ANSC 258. This course provides students with additional instruction and hands-on experience with laboratory tests commonly used in veterinary practice. Topics include: 1) identification of internal parasites 2) performance and evaluation of microbiologic and serologic
tests, 3) collection & evaluation of cytological samples 4) veterinary necropsy procedures. Included in this course is a review of the anatomy and physiology of major body systems and an overview of common diseases seen in veterinary practice. This course is intended for students entering veterinary assisting, veterinary technology or other animal-related fields

ANSC 261: Anesthesiology and Dentistry for Veterinary Technicians (3 credits)
This course will focus on dental anatomy, common dental diseases, and basic dental procedures. Topics will include proper charting, routine periodontal care, anesthesia, patient monitoring, analgesia, post-op concerns, and home care for clients. Dental equipment and instruments will be reviewed in preparation for the concurrent lab (ANSC 261L).

ANSC 261L: Anesthesiology and Dentistry for Veterinary Technicians Lab (2 credits)
This course will focus on the clinical skills necessary for safe and effective anesthesia and dental prophylaxis of companion animal patients (dogs and cats). Skills such as intravenous catheter placement, endotracheal intubation, patient preparation and monitoring, and dental prophylaxis under general anesthesia will be stressed. The use and side effects of commonly used sedatives, analgesics and anesthetics will be covered. Postoperative procedures include patient monitoring and charting as well as client education for postoperative care.

ANSC 262- Clinical Procedures for Large Animals (3 credits)
The student will learn techniques in large animal restraint, husbandry and clinical procedures and be provided some introduction to relevant large animal diseases. Biosecurity and public health will be discussed as they apply to large animal health care and husbandry. The course is appropriate for those entering animal husbandry, veterinary assisting, veterinary technology or animal science fields.

ANSC 262L- Clinical Procedures for Large Animals Lab (1 credit)
The student will learn techniques in large animal restraint, husbandry and clinical procedures and be provided some introduction to relevant large animal diseases. Biosecurity and public health will be discussed as they apply to large animal health care and husbandry. The course is appropriate for those entering animal husbandry, veterinary assisting, veterinary technology or animal science fields.

ANSC 263: Exotic & Laboratory Animal Procedures (4 credits)
Introduction to the care and use of laboratory animals. Includes training in restraint, nursing, and husbandry of common laboratory animal species (rats, mice and rabbits). This course is intended for students entering lab animal medicine, veterinary technology, veterinary assisting or other animal-related fields.

ANSC 266- Veterinary Clinical Practices & Internship II (3 credits)
A continuation of ANSC 190, this course provides veterinary technology students with additional instruction and practical experience in a clinical setting. Topics covered include: advanced sample collection & handling techniques, dentistry, administration of medications, anesthesiology & surgical assisting, and advanced nursing techniques. Emphasis is placed on integrating classroom learning with practical work experience.

ANSC 271: Anesthesiology & Surgical Nursing for Veterinary Technicians (3 credits)
This course will focus on the clinical skills necessary for safe and effective anesthesia and surgery of companion animal patients (dogs and cats). Skills such as intravenous catheter placement, proper
endotracheal intubation, patient and surgical site preparation, and patient monitoring under general anesthesia will be stressed. The use and side effects of commonly used sedatives, analgesics and anesthetics will be covered. Postoperative procedures include patient monitoring and charting as well as client education for postoperative care.

ANSC 271L: Anesthesiology & Surgical Nursing for Veterinary Technicians Lab (2 credits)
This course will focus on the clinical skills necessary for safe and effective anesthesia and surgery of companion animal patients (dogs and cats). Skills such as intravenous catheter placement, proper endotracheal intubation, patient and surgical site preparation, and patient monitoring under general anesthesia will be stressed. The use and side effects of commonly used sedatives, analgesics and anesthetics will be covered. Postoperative procedures include patient monitoring and charting as well as client education for postoperative care.

ANSC 290- Veterinary Technician Exam Review (1 credit)
This course prepares students for the Veterinary Technician National Exam (VTNE). Topics include test-taking strategies, formation of a study plan, and a review of topics from previous veterinary technology courses. Students enrolled in this course will develop essential test-taking skills by completing practice exams covering all major topics of the WCC veterinary technology curriculum.

HLTH 125- Survey of Medical Terminology (1 credit)
HLTH 125 familiarizes the student with medical terminology used in both human and animal medicine through analysis of prefixes, suffixes, and word roots. This course covers the pronunciation, spelling, and definitions of selected medical words dealing with mammalian body systems. Commonly used medical abbreviations and pharmacological terms are also discussed.

MATH 101- Mathematics for Veterinary Assistants & Technicians (3 credits)
An introduction to clinical calculations used in veterinary medicine. Topics include the application of mathematical skills to solve applied problems in veterinary nursing and pharmaceutical dispensing with emphasis on dosage, concentration, dilution and drip rates. Also included is mathematical and laboratory terminology. This course is intended for students entering veterinary technology, veterinary assisting or other animal-related fields.
## Appendix 6. Sample Course Sequence

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<th>Semester</th>
<th>Course Title</th>
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<td>3</td>
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<tr>
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</tr>
<tr>
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**TOTAL** | 70 | 98 |
Appendix 7. Letter of Support from the HVMA

HAWAII VETERINARY MEDICAL ASSOCIATION
P.O. BOX 51309, HONOLULU, HAWAII 96839-1309

1 November 2011

Board of Regents
University of Hawaii

Dear Board Members,

On behalf of the Hawaii Veterinary Medical Association, may I extend our sincere thanks for your support for the Windward Community College veterinary assistant CA program, and planning for a full fledged AVMA accredited veterinary technician program. By your actions, the quality of veterinary services provided to the community has made a leap forward for the future. We now have dedicated, trained paraprofessionals educated right here in our state, making significant contributions to our teams. Their value has also challenged the profession to raise pay scales for our team members.

Today consumers demand increased quality and volume of services for their new family members, their pets. On Oahu alone, we have 4 or 5 new practices in 2011. In addition, established practices continue to hire more staff. Furthermore, veterinary assistants and technicians have increasing roles in public health, food safety, bioterrorism and other issues. This month, the Hawaii Department of Health will address participation in the Medical Reserve Corps along these lines.

Personally, I have hired one of your CA graduates, Amanda Patoc. She is doing very well, and by her example, I look forward to a larger team of WCC students.

Sincerely yours,

Eric Ako, D.V.M.
## Appendix 8: Detailed Program Budget

### 1. Academic Program Cost and Revenues Template: Provisional to Established (Updated 10/31/12)

**CAMPUS/Program**: \(\text{WaiCC/Literacy Technology}\)

**Provisional Years (adjust as needed to show all provisional years)**

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 1</th>
<th>Year 2</th>
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### 2. ENTER ACADEMIC YEAR (i.e., 2011-2012)

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### 3. Students & SSH

<table>
<thead>
<tr>
<th></th>
<th>A. Headcount enrollment (Fall)</th>
<th>B. Annual SSH</th>
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<tbody>
<tr>
<td></td>
<td>80</td>
<td>1,018</td>
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<tr>
<td></td>
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<td>1,220</td>
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### 4. Direct and Incremental Program Costs Without Fringe

<table>
<thead>
<tr>
<th></th>
<th>C. Instructional Cost without Fringe</th>
<th>D. C1. Number (FTE) of FT Faculty/Lecturers</th>
<th>E. C2. Number (FTE) of PT Lecturers</th>
<th>F. D. Other Personnel Costs</th>
<th>G. E. Unique Program Costs</th>
<th>H. Total Direct and Incremental Costs</th>
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<tbody>
<tr>
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<td>$182,273</td>
<td>2.24</td>
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### 5. Revenue

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### 6. J. Net Cost (Revenue)

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### 7. Program Cost per SSH With Fringe

<table>
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<tr>
<th></th>
<th>K. Instructional Cost with Fringe/SSH</th>
<th>L. Support Cost/SSH</th>
<th>M. Total Program Cost/SSH</th>
<th>N. Total Campus Expenditure/SSH</th>
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</thead>
<tbody>
<tr>
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### 8. Instruction Cost with Fringe per SSH

<table>
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<tr>
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<th>K. Instructional Cost/SSH</th>
<th>L. Non-instructional Exp/SSH</th>
<th>M. System-wide Support/SSH</th>
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### 9. Breakdown of Costs

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<th>N. Other Personnel Cost</th>
<th>O. Program/Support/SSH</th>
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<tbody>
<tr>
<td></td>
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### 10. Program used for comparison:

<table>
<thead>
<tr>
<th></th>
<th>K. Instructional Cost without Fringe</th>
<th>L. Non-instructional Exp</th>
<th>M. Program/Support</th>
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<tbody>
<tr>
<td></td>
<td>$2,067</td>
<td>$399</td>
<td>$834</td>
</tr>
</tbody>
</table>

### 11. Instructions

- Please include an explanation of this template in your narrative.


- B. Annual SSH: Course Registration Report located at url [http://www.hawaii.edu/ncMaps.pps?title=Course+Registration+Report](http://www.hawaii.edu/ncMaps.pps?title=Course+Registration+Report). Add the SSH for the Fall semester. This is all SSH taught by the program, including 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: \(=\text{IF}(\text{OR}(\text{D10}>0, \text{D22}>0), \text{SUM}(-23,4,23)-\text{D18}-\text{D24})\).
### Catalog Description
Veterinary Office and Computer Skills covers the support skills needed in a veterinary office. Because veterinary office skills are critical in the success or failure of a practice, this course will emphasize the following: client communication, public relations, ethical and legal procedures, bookkeeping functions, scheduling, records management, and telephone skills. Students will be introduced to one or more industry-standard veterinary software programs as well as word processing and spreadsheet software.

### Student Learning Outcomes
- Contribute to a welcoming office environment that promotes accurate interactions with patients and clients.
- Work as a team member to deliver service in an ethical, compassionate manner, following the Veterinary Technician's Code of Ethics developed by the National Association of Veterinary Technicians Association Ethics Committee.
- Perform introductory office administrative duties to insure up-to-date filing and retrieval of documents, data entry, billing and receipts, and inventory.
- Demonstrate knowledge of an industry-standard veterinary software program.
- Demonstrate introductory skills for a word processing and spreadsheet program.

<table>
<thead>
<tr>
<th>Student Learning Outcome</th>
<th>Evidence to Assess Student Learning</th>
<th>AVMA Required Skills Cross-reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contribute to welcoming office environment</td>
<td>Task:  - Required Readings and Forum Discussions — Workflow through the Office; Team Appearance  Ex. &quot;Management of Traumatic Fractures&quot;. This article from the peer reviewed journal, Veterinary Team Brief, includes a seven step process that takes the reader through an overview of the case; a more detailed medical explanation; how-to communication with a client; workflow of the case through the office; roles played by each member of the veterinary team; training of the team; and printable client handouts. Students subscribed to this free online journal to access the articles and hopefully use this as a resource in their careers. Appendix A: Citation for the articles I used throughout the class.  Link to SLO: These articles demonstrate a flow through the veterinary clinic relevant to each case. Veterinary professionals are a team and must work together throughout this flow to provide the best care to client and patient. Also, included was a discussion of acceptable appearance for veterinary technicians.  Task:  - True Colors Mini-workshop (Ryan Perreira) and MBTI Lecture  We explored two forms of 'personality typing' to assist in positive interaction with clients and co-workers.  Link to SLO: These indicators are widely used to aid in understanding different communication styles. Students are encouraged to recognize ways of disseminating and processing information in themselves and others, so they can communicate more effectively with clients and co-workers.</td>
<td>Demonstrate telephone etiquette (e.g. through role playing, educational resources, etc.)  Triage according to client, patient and facility needs through phone and in-person contact  Utilize appropriate interpersonal and public relations skills  Schedule an appointment according to client, patient and facility needs through phone and in-person contact</td>
</tr>
<tr>
<td>Student Learning Outcome</td>
<td>Evidence to Assess Student Learning</td>
<td>AVMA Required Skills Cross-reference</td>
</tr>
<tr>
<td>--------------------------</td>
<td>------------------------------------</td>
<td>--------------------------------------</td>
</tr>
<tr>
<td>Task: Phone and Front Desk Triage (Dr. Carolyn Naun) — a role playing exercise where 'receptionists' were given cases and asked 'clients' questions in order to assess the urgency of the cases and guide the clients appropriate. Link to SLO: One of the most important aspects of front line personnel in a veterinary clinic is to identify which pets may need to be seen immediately versus ones that can make an appointment. The students were provided resources by Dr. Naun to assist them.</td>
<td>Task: PowerPoint Lecture on Front-Desk Skills Link to SLO: Descriptions of types of veterinary clinics, points on greeting clients, telephone etiquette, tips on making appointments.</td>
<td>Understand and observe legal boundaries of veterinary health care team members Apply understanding of interpersonal skills in all aspects of team dynamics Apply crisis intervention/grief management skills with clients Recognize the legality of the veterinary-client-patient relationship Respect and protect the confidentiality of client and patient information</td>
</tr>
<tr>
<td>Work as a team member to deliver service in an ethical, compassionate manner</td>
<td>Task: Required Readings and Forum Discussions — Client Education, Co-work Interaction, Euthanasia, NAVTA (National Association of Veterinary Technicians in America) Code of Ethics Link to SLO: Generated on-line and in-class discussion of some controversial topics in the veterinary workplace, as well as defining and demonstrating ethics. Also, introduced the topic of different styles of leadership. Task: PowerPoint Lecture on Client Education Link to SLO: Presented the link between the Veterinary Technician Code of Ethics and properly educating clients to comply with optimum care recommendations for their pets. Also, provided numerous recources (links to industry websites, brochures, texts, models) to assisted client education.</td>
<td></td>
</tr>
<tr>
<td>Perform introductory office administration duties: filing, data entry, billing, inventory</td>
<td>Task: Inventory Lecture and actual system setup in Vet Tech Annex Link to SLO: Students performed actual inventory set-set and discussed main concepts in inventory management. Task: AVlmark software demonstrations and worksheets Link to SLO: Used worksheets outlining scenarios to use practice management software for estimates, filing, and billing.</td>
<td>Admit Patient/Discharge Patient Handle daily client-based financial transactions Be familiar with veterinary on-line services (e.g. laboratory submissions, client financing plans, continuing education, discussion Create and maintain individual client/patient records, vaccination certificates, and other appropriate forms Perform basic filing of medical records, radiographs, lab reports, etc. Create and maintain all appropriate facility records and logs in compliance with regulatory guidelines</td>
</tr>
<tr>
<td>Student Learning Outcome</td>
<td>Evidence to Assess Student Learning</td>
<td>AVMA Required Skills Cross-reference</td>
</tr>
<tr>
<td>--------------------------</td>
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</tr>
</tbody>
</table>
| Demonstrate knowledge of industry-standard veterinary software | Task:  
- Installed AVImark and provided each student with 'thumb drive' for their use of the program  
Link to SLO: The Henry Schein company provided the college with their AVImark Practice Management Software. This Veterinary specific system has multiple functions, is user friendly, and installed in over 9,500 clinics in the U.S. Students had the opportunity to use the program at their own pace and become familiar with it before encountering it in a busy clinic setting. The skills are translatable to other veterinary software available on the market. | Be able to utilize veterinary practice management software programs |
| Demonstrate introductory skills in word processing and spreadsheet program | Task:  
- Survey of word processing and spreadsheet skills  
- End-of-Course Projects and Presentations including outlines, handouts, and PowerPoint files  
Link to SLO: Students filled out a survey to determine their familiarity with the Microsoft Office programs: Word and Excel. Based on their answers, which indicated extensive experience, they were allowed to demonstrate these skills in preparing their projects, which included documents such as client handouts. | Develop Computer Skills |

Assessment tools:

Required Readings: Appendix A  
Forum discussions: Each student was required to comment on the readings which demonstrated that they had read the material and given it some thought.  
Examples attached: Appendix B  
Analysis: A peer review journal, Veterinary Team Brief, was used as the primary reading material rather than a textbook. This is a respected publication focuses on the latest issues in the veterinary office and is a companion journal to Clinicians Brief which focus on more on medicine, published by the North American Veterinary Conference (NAVC). It seems to be more interesting to the students and most responded in the discussions in a way that indicated that they understood the point of the readings in relationship to the class.  
Plan: I plan on keeping this format for the readings, but have discovered that I should have a more thorough way to assess the students understanding of the material. To that end, I have added a quiz for each reading.
In-class worksheets and role-playing: True Colors, Triage, AVImark  
Examples attached: Appendix C  
Analysis: These were popular classes and students have requested more like them. Again, I did not allow myself a very good method of assigning credit for their completion.  
Plan: I will assign points to the completion of these tasks to encourage participation and also add a mock-up clinic day. As a matter of consideration I require attendance at any class with a guest speaker and will continue to do so.

Individual Projects and Presentations: Students chose from a list of topics and were asked to present them as they would to a client or co-worker, including developing a handout or presentation.  
Examples attached: Appendix D  
Analysis: This is good way to get some more subjects introduced to the class, such as 'compassion fatigue', while at the same time having the students demonstrate some of their computer software skills. I graded too easily because I did not give them a rubric for how I would grade.  
Plan: I will develop a rubric explaining in detail my expectations for content, format, and citation.

Final Examination: 50 questions – multiple choice, true/false, matching  
Attached: Appendix E  
Analysis: The exam was comprehensive and the majority of the students did well. However, I depended to heavily on this one test as an assessment tool.  
Plan: I am considering a more difficult take home exam that will incorporate some essay questions that require critical thinking on the topics covered in the class.

Assessment Summary:  
My goal was to reshape the business class from one that focused mostly on general office skills to one that addresses the unique aspects of a veterinary hospital business setting. As the Animal Science courses are also linked to the students’ successful completion the AVMA skills checklist, those objectives also guided my choices in the new curriculum. The biggest drawback in analyzing the course is that I did not provide enough measurable assessments (i.e. quizzes). I do feel I am on the right track with this course, and since this is my first pass at an SLO assessment, I am looking forward to feedback as to how I can improve my submission.
<table>
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<th><strong>Individual Course Assessment Analysis (Instructor's Form)</strong></th>
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</thead>
<tbody>
<tr>
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<td><strong>Date Completed:</strong></td>
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</tr>
<tr>
<td><strong>Number of Sections:</strong></td>
</tr>
<tr>
<td><strong>Course SLO:</strong></td>
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</tbody>
</table>
| **Task that demonstrates this Learning Outcome:** | 1. Media Project  
2. Oral Presentation |
| **Program/Degree:** | General Education/Associate in Arts in Liberal Arts (08062012 - 05162014) |
| **Semester of Assessment:** | FALL 2013 |
| **Program SLO:** | Critical Thinking and Creativity (GE/AA in Liberal Arts) |
| **Connection (Program SLO):** | The course SLO is designed to reflect the skills and knowledge contained in a veterinary parasitology course. The information and skills required is outlined by the American Veterinary Medical Association and is standardized for all accredited veterinary technology programs. This standardized curriculum is also the basis for the Program Learning Outcomes and reflects a common thread for all courses in the veterinary technology curriculum. |
| **Course/Program SLO Matrix:** | 1. VETA VETT Program SLO Matrix.docx (VETA/VETT SLO Matrix) |
| **Describe the task and how it links to the Program and Course SLO:** | The task is to select a parasite of domestic animals and do a power point presentation and client brochure about the parasite. The Critical Thinking and Creativity Rubric was designed to have students and faculty evaluate the method in which information is obtained as well as presenting the final product in a creative manner. This project will require research via various mediums including web browsing, periodicals, textbooks, and personal interviews. The students will be asked to not only gather the information but utilize critical thinking skills and create presentation and client brochure. A criteria will be provided to help students in this evaluation process. |
| **Connection (GenEd/AA SLO):** | N/A |
| **Course/GenEd/AA SLO Matrix:** | No Course/GenEd/AA SLO Matrix File Uploaded. |
| **Describe the task and how it links to the GenEd/AA and Course SLO:** | N/A |
| **Tool that measures achievement of this Learning Outcome:** | 1. Rubric |
| **Describe how the tool links to the Common Learning Outcome Rubric:** | Instructor and peer review utilizing rubric for critical thinking and creativity. |
| **The following academic support labs and services were required or recommended in this course:** | 1. Library Resources and Services |
The course SLOs are listed below. Assessment was based on students performance in lab activities and test scores. All 18 students passed the course and fulfilled the required 41 skills assigned to this course. The 41 skills were derived from the skills list provided by the American Veterinary Medical Association for all accredited veterinary technology programs.

1. Properly package, handle and store specimens for laboratory analysis.
2. Identify and describe the life cycle of select internal and external parasites of companion animals, livestock, & exotic species.
3. Collect, culture, and identify bacteria from animal tissues and perform sensitivity testing.
4. Collect and evaluate various cytological specimens including canine vaginal smears.
5. Perform a postmortem examination of a non-preserved animal.

The program SLOs are listed below. This course involves program SLOs 7 and 8. All students completed the lab activities and passed the administered tests.

1. Effectively communicate with clients and veterinary staff.
2. Perform routine business transactions and maintain patient and facility records.
3. Ensure the safety of patients, clients, and staff and maintain compliance with regulatory agencies.
4. Identify common breeds of companion animals, list their nutritional requirements and husbandry needs, and describe the anatomy and functions of major body systems.
5. Assist with physical exams and obtain patient histories.
6. Perform routine nursing procedures including first-aid, wound-management, and administration of medications and vaccines.
7. Develop a working knowledge of common companion animal diseases and their medical treatments.
8. Collect biological samples and perform diagnostic laboratory tests.

<table>
<thead>
<tr>
<th>% of Students Met Expectations:</th>
<th>18 of Students Meet or Exceed / 18 of Total Student Assessed = 100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analysis of the Assessment For the Course SLO(s):</td>
<td>The course SLOs are listed below. Assessment was based on students performance in lab activities and test scores. All 18 students passed the course and fulfilled the required 41 skills assigned to this course. The 41 skills were derived from the skills list provided by the American Veterinary Medical Association for all accredited veterinary technology programs. 1. Properly package, handle and store specimens for laboratory analysis. 2. Identify and describe the life cycle of select internal and external parasites of companion animals, livestock, &amp; exotic species. 3. Collect, culture, and identify bacteria from animal tissues and perform sensitivity testing. 4. Collect and evaluate various cytological specimens including canine vaginal smears. 5. Perform a postmortem examination of a non-preserved animal.</td>
</tr>
<tr>
<td>Analysis of the Assessment For the Program SLO(s):</td>
<td>The program SLOs are listed below. This course involves program SLOs 7 and 8. All students completed the lab activities and passed the administered tests. 1. Effectively communicate with clients and veterinary staff. 2. Perform routine business transactions and maintain patient and facility records. 3. Ensure the safety of patients, clients, and staff and maintain compliance with regulatory agencies. 4. Identify common breeds of companion animals, list their nutritional requirements and husbandry needs, and describe the anatomy and functions of major body systems. 5. Assist with physical exams and obtain patient histories. 6. Perform routine nursing procedures including first-aid, wound-management, and administration of medications and vaccines. 7. Develop a working knowledge of common companion animal diseases and their medical treatments. 8. Collect biological samples and perform diagnostic laboratory tests.</td>
</tr>
<tr>
<td>What changes, if any, do you plan to make in response to the results of this assessment and your analysis to improve student learning?</td>
<td>1. State criteria for grading more explicitly 2. Provide more frequent or more comprehensive feedback on student progress</td>
</tr>
<tr>
<td>What steps can the department take to address the needs and issues revealed in your analysis?</td>
<td>1. Assessment indicates no improvement necessary; however the analysis includes what worked</td>
</tr>
</tbody>
</table>

Result exported at: Friday, July 17, 2015, 14:48:03
AVMA ACCREDITATION
REPORT OF EVALUATION

Windward Community College
Veterinary Technology Program
2013
AMERICAN VETERINARY MEDICAL ASSOCIATION
COMMITTEE ON VETERINARY TECHNICIAN EDUCATION AND ACTIVITIES
(AVMA CVTEA)

Report of Evaluation

Windward Community College
Veterinary Technology Program
45-720 Keahala Road
Kaneohe, HI 96744

Date of Initial Evaluation
March 13 – 15, 2013

Evaluation Committee
Ms. Lynn Reece, RVT, CVTEA
Dr. Cordell Chang, HVMA
Ms. Ashley Harris, LVT
Mr. Herb Lee Jr., Public

AVMA Staff
Dr. Karen Martens Brandt

PRINCIPAL ADMINISTRATIVE OFFICERS
Chancellor
Mr. Doug Dykstra
Vice Chancellor
Dr. Richard Fulton
Academic Dean
Dr. Brian Richardson
Department Chair
Dr. Leticia Colmenares
Program Director
Dr. John Kaya
Presented herein is the report of the evaluation committee for the Windward Community College Veterinary Technology Program (Program). The evaluation is based on the eleven standards of accreditation established by the American Veterinary Medical Association (AVMA) Committee on Veterinary Technician Education and Activities (CVTEA) that must be met for accreditation of the program. Compliance with the standards is described on the following pages. Recommendations intended to assist the Program in fulfilling the standards or improving Program quality are presented at the conclusion of this report.

Introduction

Established in 1972, Windward Community College is one of ten satellite campuses in the University of Hawaii System. The college initially offered a certificate of achievement in veterinary assisting in fall 2009.

Executive Summary

The 69-semester credit hour curriculum leads to an Associate in Science in Veterinary Technology. Students complete a 240-clock hour externship. Admission to the Program is open. Students must complete the first year Certificate of Achievement in Veterinary Assisting prior to enrollment in the Veterinary Technology program. Animals are housed on campus for less than 24 hours. The primary focus of the curriculum is companion animal medicine. The first cohort of 4 students is expected to graduate spring 2013.

Identified Program strengths include:

- Enthusiastic, dedicated Program director who provides the Program with networking opportunities in the local veterinary community
- Student-focused, collaborative, experienced Program personnel who bring diverse practice experiences to the Program
- Commitment to the development of the Program by Dr. Langston
- Administration which is committed to the Program
- Passionate, committed Program students
• Active and engaged Program advisory committee
• Creation of a comprehensive support system within Windward Community College that is designed to work with students to assist them to succeed
• Supportive local veterinary community
• Access to diverse species
• Program laboratories that are well-equipped with contemporary veterinary equipment.
• Open, spacious, well-equipped library with staff that have developed Program library guides

Challenges/areas for improvement identified include:
• Occupational Safety and Health Administration (OSHA) and other safety issues
• Building project for new Program facilities that will need to be completed
• Concerns with the controlled substance log
• Concerns with medical records
• Not all memoranda of understanding (MOU) have exit strategies
• No emergency drug dosages in the crash cart
• As the number of students enrolled in the Program grows there will be a need for appropriate increases in resources for the Program
• Library collection that will need to continue to be expanded
• Issues inherent in new programs without graduates: students have not completed the curriculum, all skills have not been completed, and outcomes cannot be assessed

This is the Program’s initial accreditation site visit.
## Appendix 10: AVMA Accreditation Report (March, 2013)

### Standard I Institutional Accreditation

#### 1) Institutional Accreditation

An accredited veterinary technology program in the United States must be part of an institution of higher education accredited by an agency recognized by the U.S. Department of Education. Non-US programs must be part of an institution of higher learning recognized by the appropriate national, provincial, or regional agency with that authority.

### Indicate the information evaluated to assess the standard in this section

- ✔ Document(s) verifying institutional accreditation
- ✔ Report of any deficiencies from institutional accreditor
- ✔ Review of institutional accrediting agency website

### 1. Is the Program part of an institution of higher education accredited by an agency recognized by the US Department of Education? If a non-US program, is the institution recognized by the appropriate national, provincial, or regional agency with that authority?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

**Agency that accredits the parent institution:**

<table>
<thead>
<tr>
<th>Date of last review:</th>
<th>Next review:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>2018</td>
</tr>
</tbody>
</table>

Accrediting Commission for Community and Junior Colleges of the Western Association of Colleges and Schools
Standard II Finances

2) Finances

Sustainable financial support must be adequate for the program to attain the educational goals and support its mission.

Indicate the information evaluated to assess the standard in this section
☒ Financial summary of the revenues and expenses for the past two and current (budgeted) academic year for the program.
☒ Description of financial support and budgeting process to meet program needs.
☒ Description of how enrollment is planned and managed in line with resource capabilities, including tuition and fees.
☐ Other documentation or data that provides evidence of meeting the standard

<table>
<thead>
<tr>
<th>Total Institutional Operating Budget:</th>
<th>2010-2011</th>
<th>2011-2012</th>
<th>2012-2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program Revenue:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State appropriated funds</td>
<td>29,118</td>
<td>27,472</td>
<td>273,223</td>
</tr>
<tr>
<td>Federal funds</td>
<td>0</td>
<td>0</td>
<td>81,596</td>
</tr>
<tr>
<td>Student tuition and fees</td>
<td>54,035</td>
<td>82,820</td>
<td>109,265</td>
</tr>
<tr>
<td>Grants</td>
<td>26,912</td>
<td>109,447</td>
<td>59,815</td>
</tr>
<tr>
<td>Other (Cash Donations)</td>
<td>0</td>
<td>0</td>
<td>2,000</td>
</tr>
<tr>
<td>Total Revenue of Program:</td>
<td>110,065</td>
<td>219,739</td>
<td>525,900</td>
</tr>
<tr>
<td>Program Expenditures:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personnel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Veterinarians (1-3)</td>
<td>12,000</td>
<td>54,500</td>
<td>117,000</td>
</tr>
<tr>
<td>Credentialed veterinary technicians (1-3)</td>
<td>18,000</td>
<td>41,500</td>
<td>83,344</td>
</tr>
<tr>
<td>Other technical personnel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other instructional personnel (5)</td>
<td>20,630</td>
<td>19,050</td>
<td>61,160</td>
</tr>
<tr>
<td>Non-academic personnel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benefits on salaries</td>
<td>16,693</td>
<td>46,431</td>
<td>92,250</td>
</tr>
<tr>
<td>Equipment</td>
<td>24,107</td>
<td>29,524</td>
<td>45,097</td>
</tr>
<tr>
<td>Supplies</td>
<td>2,893</td>
<td>11,338</td>
<td>27,084</td>
</tr>
<tr>
<td>Other (miscellaneous, accreditation)</td>
<td>3,000</td>
<td>8,050</td>
<td></td>
</tr>
<tr>
<td>Total Expenditures of Program:</td>
<td>94,323</td>
<td>205,343</td>
<td>433,985</td>
</tr>
</tbody>
</table>

2. Is the institutional budget adequate to meet the program’s current needs?
☒ Yes ☐ No
<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the institution have provisions to meet any unexpected financial needs of the program?</td>
<td>☒ Yes</td>
<td>☐ No</td>
</tr>
<tr>
<td>What is the theoretical total cost for a student who is a resident of the state (if applicable) to complete the program, based on current tuition, fees, and equipment, books, and related costs?</td>
<td>$10,613</td>
<td></td>
</tr>
<tr>
<td>Are program-specific scholarships or grants available to students?</td>
<td>☐ Yes</td>
<td>☒ No</td>
</tr>
</tbody>
</table>

Comments:
The Program is working with the colleges fundraising coordinator to solicit private donations to fund student scholarships. Approximately 55% of students receive financial aid.
### Standard III Organization and Communications

3) Organization and Communications

3a. The program must develop and follow its mission statement.

3b. Roles of the administrators and the lines of communication between the institution and the program director must be clearly defined.

3c. Program relationships with students, faculty, administrators, and the public must be conducted with integrity. Policies and available educational services for veterinary technology students must be clearly defined.

3d. The CVTEA must be apprised of changes in administration, organization, association with the parent institution, and major changes in the curriculum, faculty, or stated objectives. All changes must be reported to CVTEA within sixty (60) days of implementation with an explanation of how the program will continue to comply with accreditation Standards.

3e. The program must have an advisory committee that meets at least annually to provide counsel regarding equipment, curriculum, demographic trends and other matters pertaining to the veterinary technology profession. Membership must include veterinarians and veterinary technicians with diverse professional interests, and should include veterinary technician students, industry representatives, and public members.

3f. Programs with agreements between two or more institutions are recognized. The institution accredited by CVTEA is declared the parent (home) institution and grants the degree or certificate.

3g. Communication and interactions with veterinary technician educator associations, veterinary medical associations, and veterinary technician associations should be maintained.

Indicate the information evaluated to assess the standard in this section

- [x] Documentation of program's mission statement
- [x] Organizational chart
- [x] Course catalog, websites, handbooks
- [x] Advisory committee roster
- [x] Advisory committee minutes
- [x] Description of the relationship between the administration and the program.
- [ ] Other documentation or data that provides evidence of meeting the standard

| 3a. Does the program have an appropriate mission statement? | [x] Yes | [ ] No |

Comments:

The mission of the program is to increase the quality of veterinary care in Hawaii by providing students with essential skills and knowledge that will prepare them for successful careers in veterinary medicine.

| 3a. What is the primary focus (mission) of the program? |
| Companion animal medicine. |

| 3b. Is the relationship between the administration of the institution and the program open, efficient and effective? | [x] Yes | [ ] No |

Who does the program director report to?
The Department Chairperson, Dr. Leticia Colmenares.

Comments:
Interviews with Administrators provided evidence that the administration is strongly supportive of the Program and that there is good communication between the Program and all levels of administration.

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is there evidence that full-time and part-time program personnel participate in regularly scheduled faculty meetings?</td>
<td>☒ Yes</td>
<td>☐ No</td>
</tr>
</tbody>
</table>

Comments:
Adjunct personnel who are unable to attend the weekly meetings are informed of discussion items and have the ability to provide feedback via electronic communications.

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are policies and educational services for veterinary technology students clearly defined and available?</td>
<td>☒ Yes</td>
<td>☐ No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the program have an advisory committee?</td>
<td>☒ Yes</td>
<td>☐ No</td>
</tr>
<tr>
<td>Does the advisory committee meet at least annually?</td>
<td>☒ Yes</td>
<td>☐ No</td>
</tr>
<tr>
<td>Does the advisory committee contain veterinarians and veterinary technicians with diverse professional interests?</td>
<td>☒ Yes</td>
<td>☐ No</td>
</tr>
<tr>
<td>Does the advisory committee have representation from program students, the veterinary industry, and the public?</td>
<td>☒ Yes</td>
<td>☐ No</td>
</tr>
</tbody>
</table>

Comments:
Part of the impetus for the development of the Program was based on the request from local veterinary practitioners for a veterinary technology program. The Program has been able to assemble a diverse advisory committee with members who are committed to the development of a strong veterinary technology program for the State of Hawaii.

Local veterinary community members voiced an enthusiasm for the upcoming graduation of the first class of veterinary technicians from the Program.

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is there an agreement with two or more institutions to provide this program?</td>
<td>☐ Yes</td>
<td>☒ No</td>
</tr>
<tr>
<td>If yes, is a certificate granted to program graduates by the parent institution?</td>
<td>☐ Yes</td>
<td>☐ No</td>
</tr>
</tbody>
</table>
### Standard IV Physical Facilities and Equipment

#### 4) Physical Facilities and Equipment

4a. All aspects of the physical facilities must provide an environment conducive to learning and the achievement of the educational goals. Classrooms, teaching laboratories, and other teaching spaces shall be clean, maintained in good repair, adequate in number, appropriate in capacity, and provided with sufficient equipment to meet the instructional need and the number of students enrolled.

4b. Clinical facilities must emulate contemporary veterinary facilities. Standard types of laboratory and clinical equipment, consistent with those used in contemporary veterinary facilities, shall be provided and shall comply with the Equipment and Instructional Resource List, Appendix H.

4c. Office space must be sufficient for the instructional, advisement, and administrative needs of the faculty, staff, and program.

4d. Animal housing must be consistent with accepted humane standards and federal and state regulations. See 5b.

4e. Safety of students, program personnel, and animals must be of prime consideration. (Refer to Statement on Safety, Appendix A).

4f. Drugs, biologics, reagents, and other materials used in conjunction with animal care shall be currently dated and appropriately labeled. Materials used for demonstration purposes must be appropriately identified and stored. Controlled substances shall be stored and logged in accordance with state and federal regulations.

4g. Waste management shall be appropriate for the needs of the program and consistent with regulatory agency requirements.

4h. Storage must be sufficient for program needs.

#### Indicate the information evaluated to assess the standard in this section

- [X] Description of facilities and equipment
- [X] Inspection of program facilities and equipment
- [X] Inspection of off-campus clinical facilities
- [X] Photographs/video of off-campus clinical facilities
- [X] Review of controlled substance log
- [X] Documentation of pregnancy policy and rabies policy
- [X] Documentation of policy on aggressive animals and bite/scratch policy
- [X] Documentation of emergency plan
- [☐] Other documentation or data that provides evidence of meeting the standard

#### 4. Provide a brief description of program facilities:

The on-campus facilities are located in three buildings and with the exception of Hale Iolani 116 all classrooms and laboratories are shared with other departments in the college. Lecture classes are held in Hale Imiloa and Hale Palanakila. These classrooms are equipped with standard audio-visual equipment and can accommodate 25-35 students. Clinical pathology and anatomy laboratories are held in Hale Imiloa 103, Radiology laboratories are held in Hale Imiloa in the radiology room, and animal handling laboratories, including dentistry, are held in Hale Iolani 116. Hale Iolani 116 is 900 square feet and is equipped with caging to hold 11 animals, 2 surgical tables, 1 wet table, an examination table, 3 dental units, 2 portable and on wall mounted anesthesia machines, patient monitoring equipment, an autoclave, models, and storage units for supplies.

Off-campus facilities are used for large animal, laboratory animal and surgical
experiences. Sites include the Koko Crater Stables, Kualoa Ranch, the University of Hawaii Sheep Facility, a local dairy, University of Hawaii Kakaako Laboratory Animal Facility, and the Magoon laboratory on the University of Hawaii at Manoa.

A 1950 sq. ft. veterinary annex has been designed and approved for construction. This facility will provide wards for cats and dogs, a treatment room, storage, a surgical suite, and a radiology suite. The anticipated construction start date is spring of 2013 with completion within a year.

| 4a. Are all facilities appropriate in capacity and adequate in number for the number of students enrolled and the courses offered? | ☒ Yes ☐ No |
| Are all program facilities clean and maintained in good repair? | ☒ Yes ☐ No |
| Is there sufficient equipment available to support the number of students enrolled and the courses offered at all locations (including off-campus clinical facilities)? | ☒ Yes ☐ No |

| 4b. Do clinical facilities emulate contemporary veterinary facilities? | ☒ Yes ☐ No |
| Did the site team have any concerns regarding the facilities? | ☐ Yes ☒ No |
| Does the equipment provided comply with the *Equipment and Instructional Resource List, Appendix H*? | ☐ Yes ☒ No |

Comments:
The Program has been able to secure Perkins grants to provide funding for a significant amount of the Program equipment that has been purchased. The emergency crash cart contains all required equipment with the exception of emergency drug dosages.

| Does the program desire any non-essential equipment? | ☒ Yes ☐ No |

Comments:
The Program desires a digital dental radiographic unit, an ultrasound unit and funding for service contracts to install practice management software on multiple computers. Installing the practice management software on multiple computers would allow the Program to educate Program students on electronic records and to maintain electronic records on animals utilized by the Program.

| 4c. Is there sufficient office space available for program personnel, including privacy of student counseling? | ☒ Yes ☐ No |
**Comments:**

All full-time Program personnel have office space.

<table>
<thead>
<tr>
<th>4d. Are animals housed on campus?</th>
<th>☒ Yes ☐ No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is all animal housing consistent with accepted humane standards and state and federal regulations?</td>
<td>☒ Yes ☐ No</td>
</tr>
</tbody>
</table>

**Comments:**

Animals are housed for 12 hours or less.

| 4e. Has the program established policies and procedures that ensure a safe and healthy environment for program students, personnel, and animals? | ☒ Yes ☐ No |
| Did the site team note any safety or regulatory concerns? ([Please reference the Accreditation Policies and Procedures of the AVMA CVTEA, Appendix A](#)) | ☒ Yes ☐ No |
| Is appropriate personal protective equipment available for students and is it appropriately utilized? | ☒ Yes ☐ No |
| Does the program have a protocol in place for the handling and disposition of aggressive or dangerous animals? | ☒ Yes ☐ No |
| Does the program have a bite/scratch protocol in place? | ☒ Yes ☐ No |
| Does the program have an appropriate pregnancy policy in place? | ☒ Yes ☐ No |
| Does the program have an appropriate rabies vaccination policy in place? | ☒ Yes ☐ No |

**Comments:**

There is a microwave in Iolani 116 that is not labeled with safety signage. In addition, a cloth chair is present in the animal handling laboratory, Iolani 116.

Radiology logs reviewed by the site team do not identify all students involved in a radiological procedure.

The Program has discussed what will happen to animals on campus in case of an emergency; however, there is no written plan in place.

<p>| 4f. Are all drugs, biologics, reagents, and other materials for | ☒ Yes ☐ No |
| | |</p>
<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are materials used for demonstration purposes appropriately labeled and stored?</td>
<td>☑ Yes</td>
<td>☐ No</td>
</tr>
<tr>
<td>Are controlled substances appropriately logged and stored?</td>
<td>☐ Yes</td>
<td>☑ No</td>
</tr>
</tbody>
</table>

Comments:
Errors in the controlled substance log are not recorded appropriately and an inventory of controlled substances has not been performed. The controlled substance log is in a three-ring binder.

4g. Does waste management meet the program’s needs and is it consistent with regulatory requirements? | ☑ Yes | ☐ No |

4h. Is there storage space available sufficient to meet the program’s needs? | ☑ Yes | ☐ No |

Commentary:
The building project must be completed as planned to provide facilities more suitable to Program needs.

Emergency drug dosages must be added to the emergency “crash cart”. The Program should acquire digital dental radiographic and ultrasound capabilities. Funding should be provided for a service contract for practice management software to allow the Program to utilize an electronic record keeping system.

The Program must be compliant with Occupational Safety and Health Administration (OSHA) and other safety considerations must be addressed with respect to safety signage on the microwave in Iolani 116, chair that is not impervious and cannot be sanitized in Iolani 116, and identification of students involved in radiographic experiences. A written emergency plan for animals utilized by the Program should be developed.

Controlled substance logs must be compliant with Drug Enforcement Administration (DEA) regulations. The controlled substance log should be kept in a bound, sequentially numbered book to prevent alteration and to emulate best practice standards.
Standard V Resources for Clinical Instruction

5) Resources for Clinical Instruction

a. Programs must follow all applicable federal and state regulations and guidelines for the care and use of animals utilized by the program. CVTEA endorses the principles of humane care and use of animals as codified in the Animal Welfare Act (AWA) and requires programs to follow AWA regulations and policies with respect to all animal use. All animal activities conducted by a program must be reviewed and approved by an animal care and use committee whose structure and functions are in accord with AWA requirements.

b. Adequate numbers of common domestic and laboratory animal species are required to provide the necessary quantity and quality of clinical instruction to meet curriculum requirements without overuse of the animals or violation of AWA requirements for humane use and care (see Guidelines for the Use of Animals in Veterinary Technology Teaching Programs, Appendix B).

c. Models and other alternate methods of teaching that are consistent with the goals of the curriculum must be considered to replace, reduce or refine animal use.

d. Records and logs for animals used by the program must be comprehensive and accurately maintained.

e. Off-campus providers of instructional support must meet objective requirements set by the program with respect to the physical facilities, staff, and available equipment. A memorandum of understanding or contractual arrangement must be established with all off-campus sites including, but not limited to, externship, preceptorship, and distance learning sites. (See Guidelines for Off-Campus Clinical Instruction, Appendix C.)

f. CVTEA discourages providing clinical veterinary services to the public by programs educating veterinary technicians. If clinical veterinary services are offered, programs must stress that student instruction is the primary purpose of clinical resources and that all animals, regardless of ownership, are used as teaching resources and not primarily for revenue.

Indicate the information evaluated to assess the standard in this section

☑ Description of resources available
☑ Inspection of program facilities and clinical resources
☑ Review of animal medical records
☑ Review of medical logs (to include, but not limited to, surgical and radiology logs)
☑ Documentation of institutional animal care and use (IACUC) committee minutes
☑ Documentation of IACUC-approved animal care and use protocols
☑ Documentation of IACUC-approved complaint policy
☑ Documentation of signed memoranda of understanding with off-campus providers of clinical instruction and/or clinical resources
☑ Documentation and/or description of requirements for off-campus providers of clinical instruction

☐ Other documentation or data that provides evidence of meeting the standard

5. Describe available animal resources:

The Program has access to dogs and cats through the Hawaiian Humane Society (HHS), the Oahu SPCA (OSPCA), and Joey’s Feline Friends. In addition, privately owned dogs and cats that belong to Program personnel and students are also utilized. Cattle, horses, and sheep are available to the Program at the Kualoa Ranch, Koko Crater Stables, and the University of Hawaii Waialee Farm. Birds and rabbits are available from private owners and breeders. The Kakaako Laboratory Animal Facility of the University of Hawaii is utilized for rats and mice.
In addition to required species the Program also has access to sea lions, dolphins, sea turtles, etc. through the Sea Life Park.

The Program has MOU in place with all providers of required species; however, the large animal agreements do not contain exit strategies.

<table>
<thead>
<tr>
<th>5a. Is the Program registered with the USDA?</th>
<th>□ Yes □ No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Were any non-compliance issues noted at the last inspection?</td>
<td>□ Yes □ No □ n/a</td>
</tr>
<tr>
<td>Does the program follow all applicable federal and state regulations and guidelines for the care and use of all animals utilized?</td>
<td>□ Yes □ No</td>
</tr>
<tr>
<td>Is there an appropriately constituted and functioning institutional animal care and use committee (IACUC) in place?</td>
<td>□ Yes □ No</td>
</tr>
<tr>
<td>Does the program have IACUC-approved animal care in use policies in place for all animal activities and are they complete?</td>
<td>□ Yes □ No</td>
</tr>
<tr>
<td>Does the program have an IACUC approved policy in place for investigating and responding to complaints of inappropriate animal care or use and is it publicized?</td>
<td>□ Yes □ No</td>
</tr>
</tbody>
</table>

Comments:
The Program has confirmed with the USDA that they do not need to register. The Program plans to contact the USDA regarding registration following completion of the new facility.

| 5b. Are adequate numbers of common domestic and laboratory animal species available for use in teaching to meet the required quality and quantity of clinical instruction to meet curriculum requirements without overuse of animals or violation of humane standards of care? | □ Yes □ No |

Comments:
What is the student to animal ratio for:

<table>
<thead>
<tr>
<th>Animal Type</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small animals</td>
<td>1:1</td>
</tr>
<tr>
<td>Large animals</td>
<td>3:1</td>
</tr>
<tr>
<td>Laboratory animals</td>
<td>1:1-3:1</td>
</tr>
<tr>
<td>Avian</td>
<td>1:1</td>
</tr>
</tbody>
</table>

5c. Are there appropriate types and quantities of animal models available for program students?  ☑ Yes  ☐ No

Comments:
The Program has a good start on a collection of models; however, would benefit from the acquisition of additional models such as a Koken rat and Dentoform models.

5d. Are all animal records and logs comprehensive and accurately maintained?  ☐ Yes  ☑ No

Comments:
The site team reviewed a number of medical records and found that a number are not legible, they are not consistently dated, do not consistently record the animal’s identification, and do not indicate the personnel who made the entry or performed the procedure.

In addition, the Program does not create a complete medical record for each animal utilized by the Program. Creation of a complete medical record for each animal would provide Program students with additional experiences with medical record keeping.

5e. Are there objective requirements in place with regard to physical facilities, staff, and equipment for all off-campus providers of clinical instruction?  ☑ Yes  ☐ No  ☐ n/a

Are signed memoranda of understanding, with appropriate exit strategies for primary providers, in place for all off-campus sites?  ☑ Yes  ☐ No

If off-campus clinical sites are used, Provide a brief description of sites utilized.

The following off-campus site are used:

- University of Hawaii Magoon Research and Teaching Facility
- Kakaako Laboratory Animal Facility
- Koko Crater Stables
- Kualoa Ranch
- University of Hawaii Waialee Farm
5f. Are clinical veterinary services provided to the public? □ Yes ☒ No

Commentary:
Memoranda of understanding (MOUs) with critical providers of large animal resources must contain exit strategies.
Medical records must emulate contemporary veterinary practice standards. A medical record should be created for all animals utilized in Program instruction.
The Program should acquire additional models.
### Standard VI Library and Informational Resources

6) Library and Informational Resources

6a. Libraries and information retrieval are essential to veterinary technician education and continuing education. Timely access to current information resources germane to veterinary technology through print, electronic media, and/or other means must be available to students, faculty, and staff. Students must have access to a qualified resource specialist.

6b. Knowledge of quality information resources, library use and development and application of information retrieval skills must be included in the educational experience.

| Indicate the information evaluated to assess the standard in this section |
| List of texts and periodicals, electronic and print, available to program personnel and students. |
| List of databases available to program personnel and students |
| Tour of library facilities and relevant portions of the collection |
| Description of the qualification of the librarian(s). |
| Description of computer technology available to program personnel and students. |
| Description of courses/activities provided in which students learn about the educational resources available. |
| Description of remote access technologies and mechanisms that promote use of library information. |
| Description of funding available for library and educational resources. |
| Description of how use of library resources is encouraged. |

| 6. How many hours per week is the library open? | 65 |
| What is the seating capacity of the library? | 450 |

Where is the library located:

The library is located in a building adjacent to the projected veterinary annex.

Comments:

The Library has recently moved into a new building that is open and spacious and is equipped with state of the art technology.

6a. Do program personnel and students have access to library and educational resources that are sufficient to meet the needs of the program? ☑ Yes ☐ No

What is the number of veterinary technology related books and periodicals in the library?

The collection has 165 books and 8 periodicals in the library. In addition, the library has access to 54 veterinary related journals through an online science database and a number of e-books.
### Comments:
The Program has the beginnings of a good collection of texts and periodicals; however, would benefit from the continued addition of items to the collection.

| 6a. Are the library and educational resources available to program personnel and students current? | ☒ Yes ☐ No |
| Do library personnel have the appropriate credentials? | ☒ Yes ☐ No |

**Describe the credentials of the resource specialist:**
The library is staffed with 4 full-time MLS librarians from American Library Association (ALA) accredited institutions. There are three clerical staff and part-time student assistants.

| Are adequate funds allocated to the library to support library and educational resources? | ☒ Yes ☐ No |

**What is the amount of the library budget that is allocated to the program?**
The Program has approximately $2,000 available annually for additions to the collection.

| 6b. Does the program incorporate and use quality information resources, library, and other educational resources in the teaching and learning process? | ☒ Yes ☐ No |

**Comments:**
Library staff will provide education to students on the use of appropriate resources. In addition, library staff has developed library guides to aid Program students in researching and acquiring quality resources and information.

| Are students aware of and utilize the library and educational resources available? | ☒ Yes ☐ No |

**Comments:**
Additional weekend hours are desired.

**Commentary:**
Relevant library holdings, including texts, periodicals, and databases, must continue to be expanded.
Standard VII Admissions

7) Admissions

7a. The institution and program admission policies must be well defined and documented.

7b. Applicants must have a high school diploma or its equivalent. Consideration of the qualifications of applicants for admission must include aptitude for, and interest in, a career in veterinary technology.

7c. CVTEA recognizes that some institutions must perform under open admissions policies that prohibit selective entry into veterinary technician education programs. However, the development and consistent application of selective admissions standards may be helpful in admitting more qualified students, reducing attrition, and producing graduates who are most likely to succeed, and therefore should be encouraged.

7d. Catalogs, website, or other official publications must contain the institutional and programmatic purposes and objectives, admission requirements and procedures, academic offerings, degree granted, and program requirements for completion of the degree, including the existence of any technical standards. This information must include the length of time necessary for completion; policies with respect to satisfactory academic progress; policies on transfer of credits; tuition, fees, and other program costs; refund policies; and national and state requirements for eligibility for credentialing or entry into the field of veterinary technology.

7e. The institution and program must demonstrate integrity and responsibility in student recruitment practices. Admission must be non-discriminatory and in accordance with federal and state statutes, rules, and regulations. Personnel who are knowledgeable about the program and its requirements should conduct student recruitment.

7f. The program director or director’s appointee should participate in the deliberations of the admissions committee and selection of students.

Indicate the information evaluated to assess the standard in this section

☒ College catalog, brochures, website
☒ Program admission packet
☒ Description of admission policies and procedures
☒ Discussions with program students
☐ Other documentation or data that provides evidence of meeting the standard

<table>
<thead>
<tr>
<th>7a. Are the institutional and program admissions policies well defined and documented?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>7b. Is a high school diploma or its equivalent required for admission into the program?</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

7c. Describe requirements for admission into the program:

The first year of the Program is comprised of the veterinary assisting program. Students must first complete the certificate of achievement in veterinary assisting before applying to the veterinary technology program. Admission is open for the first year on a first-come first-served basis; however, the Program will admit no more than 60 students to the first year.

A COMPASS placement test is mandatory for English and Math courses which are required for the veterinary assisting and veterinary technology courses.

The second year of the Program is limited to 25 students. All qualified applicants for the second year are ranked for admission based on combined scores in the five areas below:

- GPR (minimum of 2.0)
### Appendices 10: AVMA Accreditation Report (March, 2013)


- Letters of recommendation
- Veterinary-related work experience or training
- Personal statement
- Applicant interview

<table>
<thead>
<tr>
<th>How frequently are students enrolled into the program?</th>
<th>Once a year in the fall</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the maximum number of students to be admitted into the program for each enrollment period?</td>
<td>25 for second year veterinary technology program students</td>
</tr>
</tbody>
</table>

7d. Does the catalog and/or other advertising material such as brochures and website, accurately describe the program and its objectives?

☐ Yes  ☐ No

7f. Does the program director or director’s appointee participate in the selection of students admitted into the program?

☐ Yes  ☐ No
Standard VIII Students

8) Students

8a. The number of students must be consistent with the mission of the program and must not exceed the available resources or the number of faculty and support staff needed to meet the educational goals of the curriculum. An appropriate instructor-to-student ratio must be maintained to ensure student safety and adequate delivery of instruction in a variety of teaching environments.

8b. Student support services must be available within the institution for program students. Interactions between students and faculty/staff must be sufficient to communicate expectations for successful academic performance, provide feedback for improvement of skills or knowledge, and encourage professional growth and development.

8c. Throughout the curriculum, students must be exposed to veterinary team concepts and appropriate modeling of ethical and professional behavior.

8d. Students should be encouraged to form a student organization, and this organization should become an affiliate of the National Association of Veterinary Technicians in America (NAVTA) and appropriate state veterinary technology associations. Students should be encouraged to be active in local, state, and national veterinary technician organizations.

Indicate the information evaluated to assess the standard in this section
☒ Description of student support services available
☒ Documentation of numbers of students admitted into the program
☒ Review of student handbook
☒ Discussions with program personnel and students
☐ Other documentation or data that provides evidence of meeting the standard

<table>
<thead>
<tr>
<th>8. Total institutional enrollment:</th>
<th>Total # FTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,741</td>
<td>1,470</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Program enrollment:</th>
<th>Total # FTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>65</td>
<td></td>
</tr>
</tbody>
</table>

| Does the program offer more than one degree/certificate option for veterinary technology students? | ☐ Yes ☒ No |
|--------------------------------------------------------------------------------------------------|

<table>
<thead>
<tr>
<th>Number of students currently at each stage of the curriculum (if applicable):</th>
</tr>
</thead>
<tbody>
<tr>
<td>54 1st year</td>
</tr>
<tr>
<td>11 2nd year</td>
</tr>
</tbody>
</table>

| Maximum capacity of the program per incoming class: | 25 |
|-----------------------------------------------------|

Comments:

Students can join the Certificate of Achievement in Veterinary Assisting (CAVA) on either a full-time or part-time basis. The Program’s goal is to create a cohort enrollment for veterinary technology students whereby students accepted at the same time into the program will be expected to graduate together. Currently however, students are allowed the option of full-time or part-time as the Program is currently admitting second year.
students from the first three cohort that completed the CAVA.

<table>
<thead>
<tr>
<th>Does the program anticipate the number of students entering the program to change in the next 2 years?</th>
<th>□ Yes □ No</th>
</tr>
</thead>
<tbody>
<tr>
<td>If yes, what is the anticipated change in numbers</td>
<td></td>
</tr>
</tbody>
</table>

**Student Retention:**

Retention percentage =

\[
\frac{\text{(Ending enrollment in the Program as of June 30 + Graduates)}}{\text{(Beginning enrollment as of July 1 + New Starts + Re-entries)}}
\]

The Program will enroll up to 60 in the first year of the program, but will only accept 25 in the second year of the program. The below numbers are the retention rates for each year of the program, due to the differing numbers:

<table>
<thead>
<tr>
<th>% Retention</th>
<th>Year 1 – Year 2</th>
<th>Year 2 – Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 %</td>
<td>July 1, 2010 – June 30, 2011</td>
<td>69.8 %</td>
</tr>
<tr>
<td>69.8 %</td>
<td>July 1, 2011 – June 30, 2012</td>
<td>75 %</td>
</tr>
<tr>
<td>75 %</td>
<td>July 1, 2012 – March, 2013</td>
<td>55 %</td>
</tr>
<tr>
<td>55 %</td>
<td>July 1, 2012 – June 30, 2013</td>
<td></td>
</tr>
</tbody>
</table>

When will the first class graduate?

(for new programs only)

Spring 2013 with 4 students

8a. Is the number of students enrolled appropriate for the available resources, including faculty and staff, to meet the educational goals of the program?

□ Yes □ No

Is there an appropriate instructor-to-student ratio present for:

- Animal handling laboratories?
  - Instructor to student ratio: 3:1 to 10:1
  - □ Yes □ No

- Program laboratories?
  - Instructor to student ratio: 10:1
  - □ Yes □ No

- Lecture classes?
  - Instructor to student ratio: Average of 20:1 up to 30:1
  - □ Yes □ No

Comments:

Due to the relatively small numbers of students admitted into the first and second year, the Program has been able to maintain small class sizes.

As an increased number of students are admitted into the Program adequate resources for
the Program will need to be maintained.

<table>
<thead>
<tr>
<th>8b. Are academic and personal support services available to program students from the institution?</th>
<th>☑ Yes ☐ No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comments:</td>
<td>The college has developed a comprehensive system to provide students from diverse backgrounds the support necessary to give students the tools they need to succeed. Support includes help with academic needs and also life issues.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>8c. Does the program model veterinary team concepts and appropriate ethical and professional behavior?</th>
<th>☑ Yes ☐ No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comments:</td>
<td>Program personnel interviewed appeared to be supportive of one another and worked well together.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>8d. Does the program have a student veterinary technician organization?</th>
<th>☑ Yes ☐ No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comments:</td>
<td>The student organization has filed for recognition by the ASUH (Associated Students of the University of Hawaii). The student organization has officers and bylaws, recently participated in a campus career fair, and plans to join NAVTA once it raises money through fundraisers and with financial support from the ASUH. There is no state veterinary technician organization at the present time; however, a state organization is in the early stages of development. As the state veterinary technician organization is in the early stages of development and one of the Program personnel is involved in the organizing committee, this would be a great opportunity for Program students become involved in the state organization.</td>
</tr>
<tr>
<td>If yes, is the student organization a student chapter of the National Association of Veterinary Technicians in America (NAVTA)?</td>
<td>☐ Yes ☑ No</td>
</tr>
<tr>
<td>If yes, is the student organization affiliated with the state veterinary technician organization?</td>
<td>☐ Yes ☐ No ☑ n/a</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Do students have opportunities to provide input to the program?</th>
<th>☑ Yes ☐ No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comments:</td>
<td>Program students interviewed demonstrated enthusiasm regarding the Program and students that were in their last semester were eagerly anticipating graduation.</td>
</tr>
</tbody>
</table>
Commentary:
Increasing numbers of students admitted to the Program must be accompanied by an appropriate increase in fiscal, human, and clinical resources available to the Program.

A formal student organization should be formed and become affiliated with the National Association of Veterinary Technicians in America (NAVTA) and the state technician association to encourage participation in professional associations and to promote interactions between classes.
Standard IX Faculty and Staff

9) Faculty and Staff

9a. Faculty and staff numbers must be sufficient to deliver the educational program and meet the instructional goals of the program.

9b. Instructors in the program must have knowledge and expertise in the topics they teach and promote the appropriate role of the veterinary technician in the veterinary health care team. Instructional duties must not violate local, state, or federal laws regarding the practice of veterinary medicine.

9c. The program director must be a licensed veterinarian or a credentialed veterinary technician who must* be a graduate of an AVMA-accredited program. The program director must have the educational background and occupational experience appropriate to understand and fulfill program goals. The position of the program director should be full time with the institution. (*Compliance with “must” in 9c is expected by June 30, 2015; prior to June 30, 2015 programs should have credentialed veterinary technicians who are graduates of an AVMA-accredited program. Any new hire must be compliant with 9c as written.)

9d. The director must have the responsibility, authority, and support necessary to manage the program successfully. This shall be documented in a written job description that also shall clearly define the position of the director within the institutional hierarchy. The program director must be responsible for organizing continuous program review and development processes that assure program effectiveness. The program director’s appointment must include sufficient time for administrative and teaching responsibilities as well as opportunities and support for professional development.

9e. Each program must have a minimum equivalent of one full-time licensed veterinarian and a minimum equivalent of one full-time credentialed veterinary technician who must* be a graduate of an AVMA-accredited program. (*Compliance with “must” in 9e is expected by June 30, 2015; prior to June 30, 2015 programs should have credentialed veterinary technicians who are graduates of an AVMA-accredited program. Any new hire must be compliant with 9e as written.)

9f. Academic positions must offer sufficient compensation, incentives, and employment security to attract and retain qualified personnel in order to maintain program stability. Faculty and staff must have sufficient time for development and delivery of instruction, curriculum development, student evaluation, student advisement and counseling, and professional development.

9g. The institution must provide evidence that it evaluates program personnel regularly and assists and facilitates professional growth. Program personnel should be encouraged to be participating members of local, state, and national professional associations.

9h. For off-campus clinical experiences, students and faculty should seek progressive contemporary facilities that employ credentialed veterinary technicians to act as professional role models and mentors.

Indicate the information evaluated to assess the standard in this section

- Documentation of program personnel workloads
- Description of program personnel workloads
- Documentation of program personnel credentials
- Description of program personnel credentials
- Job description of program director/coordinator
- Other documentation or data that provides evidence of meeting the standard

9a. Is there an adequate core of full-and/or part-time faculty to deliver the educational program, assure continuity of development of the educational program and meet the instructional goals of the program?

☐ Yes ☐ No

9b. Are the program instructors’ qualifications academically and experientially appropriate to the subject matter they teach?

☐ Yes ☐ No
Comments:
Program students interviewed commented on the quality of the instructional staff and stated that they are willing to work with students to help them achieve their educational goals.

Program personnel and college administration noted that it was the effort and the dedication to the development of the Program that played a large part in the successful launch of the Program.

9c. Who is responsible for the management of the program?

<table>
<thead>
<tr>
<th>Dr. John Kaya</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the program director(s) a licensed veterinarian or a credentialed veterinary technician who is a graduate of an AVMA-accredited program?</td>
</tr>
<tr>
<td>☑ Yes ☐ No</td>
</tr>
<tr>
<td>Does the program director(s) have both the academic and experiential qualifications to fulfill the program goals?</td>
</tr>
<tr>
<td>☑ Yes ☐ No</td>
</tr>
</tbody>
</table>

Comments:
Program students, personnel, and Program advisory committee members commented on the dedications and energy of the Program director. In addition, the Program director is active in the state association, the Board of Veterinary Examiners, and the local veterinary community. This provides the Program with a number of networking opportunities.

9d. Is there evidence that the program administrator has sufficient authority and responsibility for the development and administration of the educational program?

| ☑ Yes ☐ No |
| Is there a written job description for the program director? |
| ☑ Yes ☐ No |
| Are the time and resources devoted to the administration of the educational program sufficient? |
| ☑ Yes ☐ No |

Comments:
The college has given the Program director approximately 50% release time to concentrate on the administration of the Program and the continued development of the curriculum.

9e. Does the program have a minimum equivalent of one full-time licensed veterinarian on staff?

| ☑ Yes ☐ No |
Does the program have a minimum equivalent of one full-time credentialed veterinary technician, who is a graduate of an AVMA-accredited program on staff? ☑ Yes ☐ No

9e. Total number of veterinarians employed?
- Total full-time equivalent (FTE) veterinarians? 3
- Total number of credentialed veterinary technicians employed? 2
- Total FTE credentialed veterinary technicians? 2
- Total other instructors employed by program? 3
- FTE other instructors? .5

9f. Are program personnel salaries and benefits sufficient to attract and retain qualified personnel? ☑ Yes ☐ No

Is the time of program personnel devoted to development and delivery of instruction, curriculum development, student evaluation, student advising and counseling, and professional development sufficient? ☑ Yes ☐ No

9g. Is there evidence that program personnel are evaluated regularly and the institution assists and provides opportunities from professional growth? ☑ Yes ☐ No

Are all program personnel members of appropriate local, state, and national professional organizations? ☐ Yes ☑ No

9h. Does the program utilize progressive, contemporary facilities that employ credentialed veterinary technicians for off-campus clinical experiences? ☑ Yes ☐ No ☑ n/a

Do program personnel participate in a systematic process of continuous curriculum evaluation and revision? ☑ Yes ☐ No

<table>
<thead>
<tr>
<th>Name</th>
<th>Credentials and Education</th>
<th>Title or Rank</th>
<th>Date of Original Appointment</th>
<th>Full/Part-Time or Adjunct</th>
<th>Average Teaching Load Per Semester</th>
<th>Professional Association Memberships</th>
</tr>
</thead>
<tbody>
<tr>
<td>John Kaya, DVM</td>
<td>DVM, U of MN, 1999</td>
<td>Program Director/Asst. Prof.</td>
<td>October 1st, 2012</td>
<td>Full-time</td>
<td>4-6 cr/term</td>
<td>American Veterinary Medical Association (AVMA)</td>
</tr>
<tr>
<td></td>
<td>BEEd, Elem U of HI, 1989</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hawaii Veterinary Medical Association (HVMA)</td>
</tr>
<tr>
<td>Name</td>
<td>Credentials and Education</td>
<td>Title or Rank</td>
<td>Date of Original Appointment</td>
<td>Full/Part-Time or Adjunct</td>
<td>Average Teaching Load Per Semester</td>
<td>Professional Association Memberships</td>
</tr>
<tr>
<td>-----------------------</td>
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<td>---------------</td>
<td>------------------------------</td>
<td>---------------------------</td>
<td>------------------------------------</td>
<td>-------------------------------------</td>
</tr>
<tr>
<td>Sam Craddock, RVT</td>
<td>AAS, Central Carolina Community College, 2008</td>
<td>Instructor</td>
<td>January 1st, 2010</td>
<td>Full-time</td>
<td>10-15 cr/term</td>
<td>AVTE</td>
</tr>
<tr>
<td>Dani Carico, CVT</td>
<td>AAS, Bel-Rea Institute, 2002</td>
<td>Instructor</td>
<td>January 1st, 2013</td>
<td>Full-time</td>
<td>8-10 cr/term</td>
<td>AVTE</td>
</tr>
<tr>
<td>Zak Albudri, DVM</td>
<td>DVM, Ross University, 2006 BA, Rutgers, 2001</td>
<td>Lecturer</td>
<td>August 20th, 2012</td>
<td>Part-Time Adjunct</td>
<td>5-6 cr/term</td>
<td>AVTE</td>
</tr>
<tr>
<td>Joe Herzog, DVM</td>
<td>DVM, U of WI, 1997 BA, Stanford University, 1996</td>
<td>Lecturer</td>
<td>January 2012</td>
<td>Part-Time Adjunct</td>
<td>3-4 cr/term</td>
<td>AVMA HVMA HVS AVTE</td>
</tr>
<tr>
<td>Ross Langston, PhD</td>
<td>PhD – University of Hawaii, 2004 BS Biology – College of Charleston, 1997</td>
<td>Assistant Professor of Biology</td>
<td>January 2005</td>
<td>Full-Time</td>
<td>3-4 cr/term</td>
<td>NAVTA AVTE Sigma Xi American Association for Laboratory Animal Science (AALAS)</td>
</tr>
<tr>
<td>Clayton Akatsuka, M. Ed.</td>
<td>M.Ed., University of Hawaii, 1982 Fifth Year Teaching Certificate, University of</td>
<td>Professor</td>
<td>August, 1991</td>
<td>Full-Time</td>
<td>3 cr/term</td>
<td></td>
</tr>
</tbody>
</table>
# Appendix 10: AVMA Accreditation Report (March, 2013)


<table>
<thead>
<tr>
<th>Name</th>
<th>Credentials and Education</th>
<th>Title or Rank</th>
<th>Date of Original Appointment</th>
<th>Full/Part-Time or Adjunct</th>
<th>Average Teaching Load Per Semester</th>
<th>Professional Association Memberships</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Masters Math Education – Auburn University, 1975 BS Math – Troy State University, 1972</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Commentary:**

All Program personnel should be members of appropriate state and national professional organizations.

Program personnel should be encouraged and financially supported to attend continuing education meetings including the biennial symposia of the Association of Veterinary Technician Educators (AVTE)


**Standard X Curriculum**

**10) Curriculum**

10a. The curriculum must prepare graduates who will be fully capable of performing in a wide variety of professional roles within the veterinary field. At the completion of the curriculum, graduates must have attained entry-level skills needed to support companion animal, equine, and food animal practice, biomedical research, and other veterinary medical activities. The curriculum shall provide a foundation in veterinary technology that will inspire the student to continue life-long learning.

10b. The specific courses shall teach basic medical science, communication, critical thinking, decision-making and clinical application skills. Integration of nursing, technical, and medical skills within the curriculum must use live animals. Whenever possible, animal nursing skills should be developed in a setting and under conditions that are a reflection of the manner in which graduates will use these skills.

10c. The curriculum must include general education and specific veterinary technology course content. Required materials can be offered as complete course offerings or be integrated into courses involving more than one area of recommended material. Course objectives must be clearly communicated to the student through syllabi or other course documents. Course offerings to meet curriculum requirements typically take a minimum of 18 months to 2 years to accomplish.

10d. A practical veterinary experience that expands student knowledge and builds proficiency of acquired skills through task-specific exercises is a required portion of the curriculum. These experiences are usually termed preceptorships, practicums, internships, or externships and are for the purpose of honing skills learned in the more formal instructional settings. These practical experiences must be monitored by the program director or the director's appointee who must be a program faculty or staff member. Prior to the beginning of the practical experience, on-site supervisors must be contacted by the program. During the practical experience, contact must be maintained with students and their on-site supervisors to monitor students' personal and educational experiences. It is highly recommended that such contact take place through personal visits and interviews by the program director or appointee. Specific criteria must be used to assist on-site supervisors in monitoring student progress. The program director or appointee shall review student performance evaluations by on-site supervisors, student evaluation of the experiences, and a final student performance evaluation.

10e. Successful completion of all required skills found in the *Veterinary Technology Student Essential and Recommended Skills List, Appendix I* must be evaluated and documented by program personnel who use standard criteria that reflect contemporary veterinary practice.

10f. CVTEA recognizes that a program may wish to emphasize certain areas within the curriculum to capitalize on regional variation, institutional strengths, and available job markets. This emphasis should be clearly stated in the mission statement/objectives of the program, and the curriculum shall then reflect that emphasis. A choice to emphasize one aspect of the curriculum must not interfere with the acquisition of all skills listed on the *Veterinary Technology Student Essential and Recommended Skills list* (Appendix I).

10g. CVTEA recognizes that academic institutions have the inherent right to accept credits from other colleges, universities, or recognized educational entities. However, if the program accepts veterinary technician-related course credit from institutions not accredited by AVMA, the program must ensure that the rigor of transfer courses meets CVTEA Standards. Documentation of the assurance may be requested for review during the program accreditation process.

10h. At times, accredited programs are requested to give credit for high school courses with titles similar to those required for graduation from a CVTEA-accredited program. If credit is to be given for such courses, the student must first be required to demonstrate to veterinary technology program faculty a level of competency comparable to that of students who complete the required course successfully.
Appendix 10: AVMA Accreditation Report (March, 2013)

Indicate the information evaluated to assess the standard in this section
☒ College catalog, website
☒ Suggested course sequence
☒ Course syllabi
☒ Standardized criteria
☒ Documentation of student acquisition of essential skills
☒ Sample of course content e.g. unit of instruction with lecture and laboratory components
☒ Discussions with program personnel and students
☒ Schedule for curriculum review and revision
☐ Other documentation or data that provides evidence of meeting the standard

<table>
<thead>
<tr>
<th>10. The total number of credit hours for the program is:</th>
<th>69</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of externship/internship/preceptorship hours in the curriculum.</td>
<td>240 clock hours</td>
</tr>
<tr>
<td>Length of time to complete the curriculum?</td>
<td>2 years</td>
</tr>
<tr>
<td>Curriculum is based on what type of a delivery system? (i.e. quarters/semesters)</td>
<td>Semester credits</td>
</tr>
<tr>
<td>What degree(s) (or certificates) is/are granted?</td>
<td>Associate in Science</td>
</tr>
</tbody>
</table>

| 10a. Are the curriculum and length of the program appropriate to meet the educational objectives of the program? | ☒ Yes ☐ No |
| 10b. Does the curriculum provide a reasonable opportunity for a student to attain knowledge and contemporary veterinary skills consistent with the needs of an entry-level veterinary technician? | ☒ Yes ☐ No |
| 10c. Are basic medical sciences, communication, critical thinking, decision-making and clinical application skills included within the curriculum? | ☒ Yes ☐ No |
| Are course prerequisites clearly communicated, are they identified in the catalog and on the course syllabi, and are they being followed? | ☒ Yes ☐ No |
| Are the courses available when needed by the student so that a student may complete the curriculum in the length of time stated in the Program literature? | ☒ Yes ☐ No |
| Are the individual courses and the curriculum as a whole | ☒ Yes ☐ No |
### Appendix 10: AVMA Accreditation Report (March, 2013)

**Report of Evaluation—Windward Community College, 2013**

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole reviewed and systematically evaluated?</td>
<td>☒</td>
<td></td>
</tr>
<tr>
<td>Is there evidence that feedback from the evaluation process has resulted in implemented changes?</td>
<td>☐</td>
<td></td>
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</table>

**Comments:**
The curriculum is revised as needed following each time the course is presented. A comprehensive review of the learning outcomes and the curriculum is completed every five years for the Program.

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>Does the curriculum include the required general education and specific veterinary technology course content?</td>
<td>☒</td>
<td></td>
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</tbody>
</table>

**10d.** For the practical veterinary experience, does the program have a written and mutually signed agreement that outlines the arrangement between the institution and the practicum site, including specific learning objectives, course requirements, and evaluation criteria?

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the practical veterinary experience monitored by the program director or the director’s appointee, who is appropriately qualified?</td>
<td>☒</td>
<td></td>
</tr>
</tbody>
</table>

**10e.** Do program students complete all essential skills?

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are essential skills evaluated using standardized criteria?</td>
<td>☒</td>
<td></td>
</tr>
<tr>
<td>Do program personnel evaluate students’ acquisition of essential skills?</td>
<td>☒</td>
<td></td>
</tr>
</tbody>
</table>

**Comments:**
This is a new program and students have not yet completed all essential skills.
The Program is utilizing software program that is designed to track the acquisition of essential skills and to track the honing of essential skills during the internship experience.

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
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<tr>
<td>10g. Does the program ensure that credits accepted in transfer from non AVMA-accredited programs meet CVTEA standards?</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>

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<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
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<tr>
<td>10h. Does the program accept credit for high school courses?</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>
Are any changes to the curriculum being considered?

Future changes being considered include:

- Expanding the lab animal course to include more exotic animals
- Incorporating radiology into the curriculum for veterinary assisting students

Commentary:

Students must complete the curriculum.

Evidence must exist that all required skills have been performed by all students and have been evaluated by Program personnel using standardized criteria.
Standard XI Outcomes Assessment

11) Outcomes Assessment

11a. The program shall develop program-specific outcome assessment instruments that assist in determining attainment of the educational goals. Such instruments shall include, but are not limited to attrition rates, Veterinary Technician National Examination (VTNE) and applicable state examination pass rates, and graduate and employer surveys. Outcomes assessment results must be used to improve the program.

11b. CVTEA expects the institution to encourage and support the program review and evaluation process for the outcomes of the educational program.

Indicate the information evaluated to assess the standard in this section

- Veterinary Technician National Examination results
- State credentialing examination results
- Recent Graduate surveys and Employer surveys
- Evaluations by preceptorship/internship/externship supervisors
- Student evaluations of program
- Faculty evaluations of program
- Program goals and assessment plan
- Advisory committee minutes
- Job placement
- Documentation of change resulting from program evaluation
- Other documentation or data that provides evidence of meeting the standard

11a. Does the program utilize program-specific graduate and employer surveys?

- Yes
- No
- n/a

Did the program provide results of graduate and employer surveys and are the results current?

- Yes
- No
- n/a

Comments:
The Program has not produced graduates at this point; therefore, no outcome data is available. The Program intends to conduct graduate and employer surveys as well as analysis of performance on the Veterinary Technician National Exam (VTNE).

The Program has conducted surveys of clinics that have hired Veterinary Assistant graduates.

Does the program utilize other methods to assess outcomes, other than the Veterinary Technician National Examination (VTNE) and state examination pass rates, graduate and employer surveys, and attrition rates?

- Yes
- No

Describe other methods of outcome assessment:
The Program plans to also collect input from internship supervisors.
Is licensure, certification or registration required to practice in this state? □ Yes ☒ No

Is there a state credentialing examination? □ Yes ☒ No

How do domain scores on the VTNE relate to national averages for first-time candidates?

No data from the VTNE and state exam is available as the Program has yet to produce graduates.

Describe ways that outcomes assessment results are used in program improvement:

Commentary:

Outcomes must be assessed using performance of graduates on the Veterinary Technician National Examination (VTNE), Program-specific surveys of graduates and their employers, and feedback from the advisory committee and an analysis of the results of those assessments must be used for continued Program improvement.
CRITICAL RECOMMENDATION(S)

Critical recommendations apply to situations that clearly result in a program's inability to meet a Standard, and/or subject students, faculty, or others to unacceptable levels of risk. Documentation of significant progress toward compliance with each critical recommendation must be achieved by the time of the program's next report to CVTEA. Lack of compliance may be considered cause for reduction of the program's accreditation status.

It is critical that:

1. The Program be compliant with Occupational Safety and Health Administration (OSHA) and other safety considerations be addressed with respect to safety signage on the microwave in Iolani 116, chair that is not impervious and cannot be sanitized in Iolani 116, and identification of students involved in radiographic experiences. (4e)
2. Controlled substance logs be compliant with Drug Enforcement Administration (DEA) regulations. (4f)
3. Medical records emulate contemporary veterinary practice standards and surgery logs be compliant with state regulations. (5d)
4. Students complete the curriculum. (10a)
5. Evidence exist that all required skills have been performed by all students and have been evaluated by Program personnel using standardized criteria. (10e)
6. Outcomes be assessed using performance of graduates on the Veterinary Technician National Examination (VTNE), Program-specific surveys of graduates and their employers, and feedback from the advisory committee, and an analysis of the results of those assessments be used for continued Program improvement. (11a, 11b)
MAJOR RECOMMENDATION(S)
Major recommendations apply to situations that jeopardize the ability of the program to meet a Standard. Progress toward meeting each major recommendation must be demonstrated on an annual or biennial basis. Documentation of steps taken toward compliance with major recommendations is required. Lack of compliance within the assigned five- or six-year period, prior to the next scheduled complete evaluation, may be considered cause for reduction of the program's accreditation status.

It is recommended that:

1. Increasing numbers of students admitted to the Program be accompanied by an appropriate increase in fiscal, human, and clinical resources available to the Program. (2, 4a, 5b, 9a)
2. The building project be completed as planned to provide facilities more suitable to Program needs. (4a, 4b)
3. Emergency drug dosages be added to the emergency “crash cart.” (4b)
4. Memoranda of understanding (MOUs) with critical providers of large animal resources contain exit strategies. (5b)
5. Relevant library holdings, including texts, periodicals, and databases, continue to be expanded. (6a)
MINOR RECOMMENDATION(S)

Minor recommendations are suggestions for program improvement, but have no bearing on the program's accreditation status.

It is suggested that:

1. The Program acquire digital dental radiographic and ultrasound capabilities.
2. Funding be provided for a service contract for practice management software to allow the Program to utilize an electronic record keeping system.
3. The controlled substance log be kept in a bound, sequentially numbered book to prevent alteration and to emulate best practice standards.
4. A medical record be created for all animals utilized in Program instruction.
5. A written emergency plan for animals utilized by the Program be developed.
6. The Program acquire additional models.
7. A formal student organization be formed and become affiliated with the National Association of Veterinary Technicians in America (NAVTA) and the state technician association to encourage participation in professional associations and to promote interactions between classes.
8. All Program personnel be members of appropriate state and national professional organizations.
9. Program personnel be encouraged and financially supported to attend continuing education meetings including the biennial symposia of the Association of Veterinary Technician Educators (AVTE).
CLASSIFICATION OF ACCREDITATION

WINDWARD COMMUNITY COLLEGE
VETERINARY TECHNOLOGY PROGRAM

Is granted

PROVISIONAL ACCREDITATION
Effective March 15, 2013

By the American Veterinary Medical Association (AVMA)
Committee on Veterinary Technician Education and Activities (CVTEA)
April 27, 2015

Dr. Ross Langston
Windward Community College
Veterinary Technology Program
45-720 Keaahala Road
Kaneohe, HI 96744

Dear Dr. Langston:

Following review of the annual report for the Windward Community College veterinary technology program, the AVMA Committee on Veterinary Technician Education and Activities (CVTEA) continued the program on Initial accreditation.

The next annual report is due spring 2016 (February 26, 2016). The next accreditation site visit is scheduled for 2018. The Committee has determined that continued reporting is required on the following deficiencies (see chart(s) below):

Critical deficiency(ies): 6
Major deficiency(ies): 4

The report template will be sent out approximately 2 months prior to the due date. If there are any changes that impact critical or major deficiencies that the CVTEA previously determined do not require continued reporting, the program must report this change.

If you have any questions, or if we may be of assistance in the preparation of your next report, please do not hesitate to contact us or Ms. Julie Horvath (jhorvath@avma.org; ext. 6624).

Sincerely,

Rachel A. Valentine, RVT, BS
Assistant Director
rvalentine@avma.org; ext. 6676

Laura Lien, CVT, VTS (LAIM), MS
Assistant Director
llien@avma.org; ext. 6609

AVMA Center for Veterinary Medical Accreditation

RAV/LLU/jah
**Windward Community College ROE 2013**

**CRITICAL DEFICIENCY(IES)**
Critical deficiencies apply to situations that clearly result in a program's inability to meet a Standard, and/or subject students, faculty, or others to unacceptable levels of risk. Documentation of significant progress toward compliance with each critical deficiency must be achieved by the time of the program's next report to CVTEA. Lack of compliance may be considered cause for reduction of the program's accreditation status.

It is critical that:

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<td>2.</td>
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<td>Met; 4/2015; Annual</td>
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<td>Outcomes be assessed using performance of graduates on the Veterinary Technician National Examination (VTNE), Program-specific surveys of graduates and their employers, and feedback from the advisory committee, and an analysis of the results of those assessments be used for continued Program improvement. (11a, 11b)</td>
<td>Unmet; submit examples of completed graduate and employer surveys, VTNE score reports, and a summary of how outcomes data and advisory committee feedback are being used for program improvement</td>
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(Office use only)
Is the Deficiency met with no further reporting required or unmet with continued reporting required?
(comments); date

Page 2 of 3
## Windward Community College ROE 2013

**MAJOR DEFICIENCY(IES)**

Major deficiencies apply to situations that jeopardize the ability of the program to meet a standard. Progress toward meeting each major deficiency must be demonstrated on an annual or biennial basis. Documentation of steps taken toward compliance with major deficiencies is required. Lack of compliance within the assigned five- or six-year period, prior to the next scheduled complete evaluation, may be considered cause for reduction of the program’s accreditation status.

It is required that:

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(Office use only)

Is the Deficiency met with no further reporting required or unmet with continued reporting required?

(Comments); Date
MEMORANDUM

TO: Randolph G. Moore  
Chair, Board of Regents  

VIA: David K. Lassner  
President  

FROM: Risa E. Dickson  
Vice President for Academic Planning and Policy  

SUBJECT: Request to Approve Revisions to RP 5.201 Instructional Programs  

Specific Action Recommended:  

It is recommended that the Board of Regents approve the following revision to RP 5.201 Instruction Programs, adding an annual reporting of programs with low number of degrees/certificates of achievement conferred and establishing that a campus level review will be initiated if a program confers fewer degrees/certificates than the threshold.

Recommended Effective Date:  

Upon approval.

Purpose:

The purpose of adding the annual reporting of programs with low number of degrees/certificates conferred is to provide a regular mechanism to review program productivity. A campus level review that is initiated for programs that meet this threshold will provide a fair and thoughtful review of factors impacting the specific program and provide recommendations for improvement, as needed. A new executive policy defining the thresholds and implementation of the Regents Policy is attached for your information.
Action Recommended:

It is recommended that the Board of Regents approve the proposed change to RP 5.201 Instructional Programs.

Attachments:  
Current RP 5.201 Instructional Programs  
Proposed RP 5.201 Instructional Programs (track change version)  
Proposed RP 5.201 Instructional Programs (clean format)
I. **Purpose**

To set forth policy on instructional programs that are new, provisional, under review, potentially terminated, and on the naming of programs.

II. **Definitions**

"Admission stop-out" is a halt to new admissions to a program.

III. **Policy**

A. New Programs

1. The board shall approve:

   a. The establishment of all new instructional programs granting academic credit leading to a degree or credential upon recommendation by the president.

   b. All new certificates that are the sole credential of an instructional program or requires significant resources except for the following:

      (1) A Certificate of Achievement in which an associate degree in the program is already board-approved.

      (2) Certificates of completion and competence.

2. The president is delegated the authority to approve new certificates consisting of courses within or among board-authorized instructional programs.

3. All new program proposals shall be consistent with the institution's mission.
B. Provisional Programs

1. New programs, once approved, shall be considered provisional during the period of their first full cycle, defined as 150% of the proposed length of the degree for baccalaureate and graduate degrees (e.g., 6 years for bachelor degrees, 3 years for master's degrees, and 5 years for doctoral degrees) and 200% for certificates and associate degrees (e.g., 2 years for certificates, 4 years for associate degrees).

2. Each provisional program shall be reviewed at the end of its first full cycle. The request to the board for "established" program status shall be submitted in the academic year following the end of the program's first full cycle. Campuses may request and the president or designee may grant an extension for one year for provisional programs. Additional extensions may be requested.

3. The recommendation by the president for approval by the board shall include the results of a program review. Following its review, the board shall determine whether the program is to be awarded established status or terminated.

4. All provisional programs that have not applied for established status or extension in the year following the completion of the first cycle may be recommended for termination by the president.

5. In confirmation and clarification of existing practice and policy, no tenure appointments or tenure commitments shall be made in the programs during this provisional period.

C. Any significant change to a program once granted established status or deviations from the original intent, purpose, or design of the program shall be approved by the board.

D. The president is responsible for maintaining and making public an official inventory of all approved degrees and certificates of achievement, undergraduate certificates and graduate certificates.

E. Review of Established Programs

1. Instructional programs are systematically assessed to assure currency, improve teaching and learning, and achievement of student learning outcomes.

2. All established programs at University of Hawaiʻi at Manoa, University of Hawaiʻi at Hilo, and University of Hawaiʻi – West Oʻahu shall receive a comprehensive review at a minimum of every seventh year unless otherwise stipulated by the board.
3. Established programs at the community colleges shall receive a comprehensive review at a minimum of every fifth year unless otherwise stipulated by the board.

4. Should it be determined that a program had undergone significant changes since its establishment, a shorter review cycle may be invoked. In such cases, the program shall be subject to a comprehensive review.

5. Each campus shall develop its own program reviews schedule.

6. A summary of these reviews shall be submitted annually to the board in accordance with professional and regional (WASC) accreditation standards.

7. Reviews of particular programs may be undertaken at any time as deemed necessary by the board, faculty, or administration.

F. An admission stop-out (a halt to new admissions to the program) for more than two years shall be approved by the president. Chancellors may approve admission stop-outs for up to two years. The board shall be provided an annual report on all programs stopped-out.

G. Termination of Programs

1. Provisional and established programs deemed out-of-date or nonproductive based on a program review or other internal assessments may be terminated by the president.

2. Commitments to students already officially enrolled in such programs shall be met and limited for up to two years for associate degrees at community college programs and four years for baccalaureate degrees. No new program admissions shall take place.

3. The board shall be provided an annual report of all programs terminated.

H. Naming of Programs (Cross reference RP 11.204)

1. Programs are given a name at the time they are approved by the board. Thereafter, the president may approve changes in the functional names of academic programs and credentials as may become necessary to remain current with the terminology and focus of their fields and involve no significant change in the program requirements.

2. No program shall be given a name to honor a person without approval of the board.

IV. Delegation of Authority
The president is delegated the authority to approve new certificates consisting of courses within or among board-authorized instructional programs. See RP 5.201(A)(2).

An admission stop-out (a halt to new admissions to the program) for more than two years shall be approved by the president. Chancellors may approve admission stop-outs for up to two years. See RP 5.201(F).

V. Contact Information

Office of the Board of Regents, 956-8213, bor@hawaii.edu

VI. References

A. http://www.hawaii.edu/offices/bor/
B. http://www.acswasc.org
C. RP 11.204

Approved:

Approved as to Form:

Cynthia Quinn Date
Executive Administrator and Secretary of the Board of Regents
I. Purpose

To set forth policy on instructional programs that are new, provisional, under review, potentially terminated, and on the naming of programs.

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"Admission stop-out" is a halt to new admissions to a program. No policy specific or unique definitions apply.

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3. The recommendation by the president for approval by the board shall include the results of a program review. Following its review, the board shall determine whether the program is to be awarded established status or terminated.

4. All provisional programs that have not applied for established status or extension in the year following the completion of the first cycle may be recommended for termination by the president.

5. In confirmation and clarification of existing practice and policy, no tenure appointments or tenure commitments shall be made in the programs during this provisional period.

C. Any significant change to a program once granted established status or deviations from the original intent, purpose, or design of the program shall be approved by the board.

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4. Should it be determined that a program had undergone significant changes since its establishment, a shorter review cycle may be invoked. In such cases, the program shall be subject to a comprehensive review.

5. Each campus shall develop its own program reviews schedule.

6. A summary of these reviews shall be submitted annually to the board in accordance with professional and regional (WASC) accreditation standards.

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1. Instructional programs are systematically assessed to assure currency, improve teaching and learning, and enhance achievement of student learning outcomes.

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   e. A program with a low number of degree/certificates of achievement conferred will undergo a campus level review.
3. A report will be provided to the Board annually on programs with a low number of degrees/certificates of achievement, and on program reviews conducted in the last year, in accordance with professional and regional (WASC) accreditation standards.

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Provisional and established programs deemed out-of-date or nonproductive based on a program review or other internal assessments may be terminated by the president. See RP 5.201 F.1.

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F. Termination of Programs

1. Provisional and established programs deemed out-of-date or nonproductive based on a program review or other internal assessments may be terminated by the president.

2. Commitments to students already officially enrolled in such programs shall be met and limited for up to two years for associate degrees at community college programs and four years for baccalaureate degrees. No new program admissions shall take place.

3. The board shall be provided an annual report on all programs terminated.

G. Naming of Programs (Cross reference RP 11.204)

1. Programs are given a name at the time they are approved by the board. Thereafter, the president may approve changes in the functional names of academic programs and credentials as may become necessary to remain current with the terminology and focus of their fields and which involve no significant change in the program requirements.

2. No program shall be given a name to honor a person without approval of the board.

IV. Delegation of Authority

The president is delegated the authority to approve new certificates consisting of courses within or among board-authorized instructional programs. See RP 5.201A.2.
Provisional and established programs deemed out-of-date or nonproductive based on a program review or other internal assessments may be terminated by the president. See RP 5.201 F.1.

V. **Contact Information**

Office of the Board of Regents, 956-8213, bor@hawaii.edu

VI. **References**

A. http://www.hawaii.edu/offices/bor/
B. http://www.acswasc.org
C. RP 11.204

**Approved**

Approved as to Form:

________________________________________  ____________________________
Cynthia Quinn                        Date
Executive Administrator and Secretary of the Board of Regents