Applied Business and Information Technology (ABIT)
Bachelor of Applied Science (BAS) Program

2019
ANNUAL REPORT OF PROGRAM DATA

UNIVERSITY of HAWAI'I®
MAUI COLLEGE

1. Program Description

a) Statement and brief description of the program including a listing of the program level Student Learning Outcomes (SLOs).

The Applied Business and Information Technology (ABIT) program offers both lower and upper-division courses to all students. The ABIT program serves a diverse student population, many of who are first genera□on college students. The program also adjusts to traditional and non-traditional students, many of whom hold part-time jobs while completing their educational degree. The ABIT program is structured so that students can complete their entire degree over a four-year period. However, many students take longer to complete this degree based on personal and professional constraints and commitments.

The ABIT program is now established a distance learning program which makes it available to distance learners outside Maui County. As such, the ABIT degree is now available to all UH students in Hawaii.

In addition to demonstrating college-wide learning outcomes in creativity, writing, critical thinking, oral communication, quantitative reasoning, and information literacy, graduates of the Bachelor of Applied Science (BAS) degree in Applied Business and Information Technology (ABIT) program, will be able to do the following:

1. Develop effective business plans and strategies using essential business functions such as marketing, management, accounting, and statistics.
2. Design prototypes using current business technology for e-commerce, web programming, databases, systems analysis, and project management.
3. Create minimum viable products or services for a feasible business venture through entrepreneurship and technology skills.
4. Demonstrate business ethics, value, and integrity through teamwork and leadership.

The intent of the above PLOs is to highlight the following:
- Convey the value of the degree to students and advisory board members
- Describe learning goals that program faculty accept responsibility for developing
- Highlight outcomes that can be assessed in student work to show readiness for graduation

b) Program Mission

The Applied Business and Information Technology (ABIT) program prepares graduates to be successful entrepreneurs, technology professionals and knowledge workers in today's global economy and environment. The ABIT program is within the mission of the UH Maui College, offering a four-year degree that emphasizes high quality instruction and project-based learning.

c) Date Program Website Last Reviewed/Updated

November 2019

d) Date Program Page Reviewed/Updated in Catalog

November 2019

2. Analysis of the Program

> a) *Strengths and weaknesses in terms of demand, efficiency, and effectiveness based on an analysis of the Quantitative Indicators. CTE programs must include an analysis of Perkins Core indicators for which the program did not meet the performance level. Include Significant Program Actions (new certificates, stop outs, gain/loss of positions, results of prior year's action plan).*

The official ARPD Data for the ABIT BAS program can be found at the end of this document.

Overall, the ABIT BAS program has a program health status of **Cautionary.**

Demand: Over the past three Academic Years (AY) the demand indicators for New and Replacement positions in the State and County has decreased slightly from 467 (State) to 417 (State) and 43 (County) to 39 (County). This indicates that the demand is steady at the state and county levels for ABIT graduates.

Majors: The number of ABIT majors has dropped from a high of 118 in AY 2016-18 to 75 in 2018-19. The sustainable number of majors for the ABIT program is within the range of 70-80 students. The % of FT and Part-time majors is 54%-46% in the Fall Semester of 2018-19 and 45%-55% in the Spring Semester 2018-19. This indicates that half of ABIT students are FT students which is higher than other programs at UHMC. Nearly all ABIT students hold part-time or full-time jobs, in addition to pursuing their studies in the ABIT program. Overall, the demand indicators for the ABIT program indicate that there are more non-major SSH (429 SSH) than major SSH (330) in 2018-2019. This indicates that ABIT program classes are attractive to non-Majors and this is a healthy sign for demand for the ABIT program.

Efficiency: The average class size for ABIT is 16 in 2018-19 which is a reasonable number, given that there are 75 majors in the program. Fill rate for the classes is 63.1% which is also reasonable for the program. With the hire of an additional ABIT FTE BoR Appointed Faculty in 2018-19, the majors to BoR FTE has gone down to a reasonable 38 students per BoR FTE Faculty.

Based on the analytics from Paul about the ABIT program, the program shows its profitability by generating $253,000 in revenues with $143,000 of ABIT Faculty salaries. However, it must be noted that several FT faculty from other programs (ACC, BUS, Math, PHIL, HUM) also teach ABIT courses, which also is a cost for UHMC. Adding the costs from these FT faculty, or 0.5 FTE, the ABIT program is still profitable in revenues.

> b) *Discuss course offering modality including online, hybrid, and skybridge.*

The ABIT program was approved by the WSCUC accreditation committee as a distance program in 2018, and can reach the entire state of HI. ABIT employs hybrid courses, where there is one contact hour of live synchronous classes to distance learners and one contact hour for asynchronous online learning. This hybrid mode of instruction is delivered via distance learning tools such as WebEx, directly to a student's laptop or to a learning center within the UH system. All upper division ABIT courses are now offered to distance students, or to students who are not able to commute in person to the Kahului campus. This has allowed the ABIT program to be delivered to students outside Maui County, including students from Oahu.

c) Highlight new innovative student support efforts including FYE, etc.

Given that the ABIT program is now offered statewide, there are students from Oahu who are currently enrolled in the ABIT program. Many of these students are graduates of the AS in ITS program from Kapiolani Community College. These students take courses from Oahu and enroll in ABIT classes via distance education. However, the ABIT program provides counseling and support to these students outside Maui County. The ABIT counselor keeps in regular contact with students outside Maui County and the ABIT Program Coordinator makes regular trips to Kapiolani CC and Molokai Education Center to confer and coordinate with the students.

3. Program Student Learning Outcomes

a) List of the Program Student Learning Outcomes

In addition to demonstrating college-wide learning outcomes in creativity, writing, critical thinking, oral communication, quantitative reasoning, and information literacy, graduates of the Bachelor of Applied Science (BAS) degree in Applied Business and Information Technology (ABIT) program, will be able to do the following:

1. Develop effective business plans and strategies using essential business functions such as marketing, management, accounting, and statistics.
2. Design prototypes using current business technology for e-commerce, web programming, databases, systems analysis, and project management.
3. Create minimum viable products or services for a feasible business venture through entrepreneurship and technology skills.
4. Demonstrate business ethics, value, and integrity through teamwork and leadership.

b) Program Student Learning Outcomes that have been assessed in the year of the Annual Review of Program Data.

The above PLOs are assessed by ABIT upper division courses that develop the relevant knowledge, skills and competencies among the students.

Mandatory ABIT **business courses** that develop some/all of the above PLOs include:

- Accounting (ACC 300) – Intermediate Financial Accounting I
- Management (MGT 310) – Principles of Management
- Marketing (MKT 300) – Principles of Marketing
- Entrepreneurship (BUS 320) – Entrepreneurship
- Business Analytics (BUS 310) – Statistical Analysis for Business Decisions

Mandatory ABIT **technology courses** that develop some/all of the above PLOs include:
- E-Commerce (ICS 320) – Introduction to Info Systems and E-Commerce
- Databases (ICS 360) – Database Design and Development
- Web Development (ICS 385) – Web Development and Administration
- Project Management (ICS 418) – Systems Analysis and Design

Mandatory **Capstone courses** that demonstrate the above PLOs at a graduation-ready level.
- Capstone I (BUS 495) – Lean Launchpad, Business Canvas and Minimum Viable Product
- Capstone II (BUS 496) – Extend MVP with Customer Feedback, Prepare for Launch

c) Describe the assessment activity

The major assessment activity that measures all the ABIT PLOs is the Capstone Project in BUS 495 and 496. This project is assessed by the ABIT Advisory Board, community members and the ABIT faculty. The assessment activity for the ABIT Capstone project is as follows:

1. In Week 5 or so of Capstone I, students make pitch of the project to the Advisory Board
2. In Week 15 of Capstone I, students demonstrate their project to the community
3. Assessment Rubrics, that cover all PLOs, are used in Week 5 and Week 15
4. Students are also assessed on soft skills such as communication and presentation skills
5. Students receive ongoing feedback from instructor and mentoring from Advisory Board
6. During Capstone II, students construct the basics of a real business startup
7. At the end of Capstone II, students are assessed on all ABIT PLOs at the exit level

d) Describe assessment results

Overall, students scored well on most of the four (4) ABIT PLOs listed below. On a scale of 1 (Well Below Average) - 3 (Average) - 5 (Well Above Average), students scored a 3 on PLO2 which involves creating prototypes using technology skills. Students a 4 and above on the other PLOs 1, 3 and 4 that involves creating business plans, MVPs and demonstrating ethics.

1. Develop effective business plans and strategies using essential business functions such as marketing, management, accounting, and statistics - Above Average (4)
2. Design prototypes using current business technology for e-commerce, web programming, databases, systems analysis, and project management - Average (3)
3. Create minimum viable products or services for a feasible business venture through entrepreneurship and technology skills - Above Average (4)
4. Demonstrate business ethics, value, and integrity through teamwork and leadership - Well Above Average (5)

e) Describe any changes that have been made as a result of the assessments.

Due to the relatively lower scores on the PLO2, which involves technology prototypes, a greater effort has been placed on this activity during Capstone I or BUS 495. Students are trained in the underlying technology to create these prototypes and greater emphasis is placed on technology learning during pre-Capstone ICS courses such as ICS 365, ICS 385 and ICS 418. It should be noted that many ABIT Capstone students are transfer students with backgrounds at the Associate or lower-division level that involves non-technical programs.

4. Action Plan

a) Describe the action plan for the next academic year, including resource, curricular, professional development, or other next steps.

The action plan for ABIT for AY20-21, based on the above findings, includes the following:

Resources - ABIT intends to minimize its cost of operations by only hiring lecturers when they can be paid for by extramural funds. This reduces the burden on UHMC for lecturer costs. Also, ABIT FT BoR Faculty will teach all the essential courses for ABIT, as outlined in the program map. Shared faculty from other programs, such as ACC, BUS, PHIL and ENG, will continue to teach the GenEd courses. Overall, ABIT intends to remain a profitable program in AY19-20.

Curricular - ABIT will review all courses in its curriculum lineup during the spring semester 2020. This will enable the ABIT faculty to ensure that all courses have been recorded correctly and completely in Kuali Curriculum. There are no plans on changing the ABIT program map in AY19-20 or introducing any new required courses in the ABIT curriculum and program map.

Agreements with UH CCs - ABIT recently completed a MoU with Kapiolani CC where their AS in ITS graduates would be eligible to pursue upper division courses from Oahu and complete the BAS in ABIT degree. This new opportunity has led to six new students from Oahu, who are now part of the ABIT program. ABIT seeks additional agreements with other Oahu area CCs. At present, there are active discussions with Leeward CC and Honolulu CC. It is possible that some AS graduates from these CCs may be able to enroll in the ABIT program in Fall 2010.

Five Week Online Courses – A new initiative at the UH System allows for students to take one five-week online course at a time to obtain an AA in Liberal Arts through Leeward CC. The ABIT BAS is planning on allowing graduates with the AA in Liberal Arts to pursue a BAS degree in ABIT with additional 60 credits that are taught online in the five-week course format. This format will start in Spring 2022, at the earliest.

This initiative requires three major action areas – 1) Curriculum development of upper division ABIT courses to the five-week format (summer 2020), 2) Support requirements for students enrolled in this program from counselors and other support staff from UHMC, 3) Additional resources to teach this five-week program, which will most likely require 2 new lecturers, one trained in business and another trained in information technology.

Applied Research - ABIT faculty and program coordinator, Dr. Debasis Bhattacharya, is the recipient of several NSF grants that total more than $1.5M. Currently, Dr. Bhattacharya is the Principal Investigator (PI) of two statewide NSF grants. The NSF CSP4HI project is training 60 HI DoE teachers over the course of three years to teach AP Computer Science Principles (CSP). The NSF CyberSecure project conducts cybersecurity research and training. Currently, this project pays for cybersecurity courses taught by lecturers and also for student internships. During the course of AY19-20, Dr. Bhattacharya will continue applied research activities.

Center for Academic Excellence (CAE) in Cyber Defense Education (CDE) - In April 2019, the ABIT BAS program was designated a CAE-CDE by the National Security Agency (NSA) and Department of Homeland Security (DHS). This designation was granted primarily due to the focus on cybersecurity education within several ABIT courses. Students who graduate from the ABIT program are entitled to receive a special CAE CDE certificate. This designation will help ABIT to attract students who are interested in pursuing a cyber career.

b) Include how the actions within the plan support the college's mission. In addition to the overall action plan for the program, include specific action plans for any Perkins Core Indicator for which the program did not meet the performance level.

The above actions for AY19-20 support the mission of UHMC in providing quality education to students in order to achieve their academic, career, and personal goals. The ABIT program continues to reach out to students from the entire state of HI and provides excellent education at a reasonable cost. ABIT graduates and the ABIT Advisory Board provide ongoing support.

5. Resource Implications

None. The ABIT program is self-sufficient in personnel, resources and equipment for AY19-20.

College: University of Hawai'i Maui College
Program: Applied Business and Information Tech
Status: Processing Workforce Alignment

Program Quantitative Indicators

Overall Program Health: Cautionary

	Demand Indicators	2016 - 17	2017 - 18	2018 - 19
1.	New & Replacement Positions (State)	467	445	417
*2.	New & Replacement Positions (County Prorated)	43	41	39
3.	Number of Majors	118	98	75
3a.	Number of Majors Native Hawaiian	34	34	25
3b.	Fall Full-Time	58%	63%	54%
3c.	Fall Part-Time	42%	37%	46%
3d.	Fall Part-Time who are Full-Time in System	5%	3%	5%
3e.	Spring Full-Time	52%	44%	45%
3f.	Spring Part-Time	48%	56%	55%
3g.	Spring Part-Time who are Full-Time in System	5%	9%	7%
4.	SSH Program Majors in Program Classes	723	459	330
5.	SSH Non-Majors in Program Classes	276	294	429
6.	SSH in All Program Classes	999	753	759
7.	FTE Enrollment in Program Classes	33	25	25
8.	Total Number of Classes Taught	16	17	16

NOTE: New & Replacement jobs updated (View Methodology).

	Efficiency Indicators	2016 - 17	2017 - 18	2018 - 19
9.	Average Class Size	21	15	16
*10.	Fill Rate	84.5%	53.2%	63.1%
11.	FTE BOR Appointed Faculty	1	1	2
*12.	Majors to FTE BOR Appointed Faculty	118	98	38
13.	Majors to Analytic FTE Faculty	118	98	38
13a.	Analytic FTE Faculty	2	2	2
14.	Overall Program Budget Allocation	$115,082	$136,939	$0
14a.	General Funded Budget Allocation	$115,082	$121,276	$0
14b.	Special/Federal Budget Allocation	$0	$0	$0
14c.	Tuition and Fees	$0	$15,663	$0
15.	Cost per SSH	$140	$0	$0
16.	Number of Low-Enrolled (<10) Classes	8	9	9

	Effectiveness Indicators	2016 - 17	2017 - 18	2018 - 19
17.	Successful Completion (Equivalent C or Higher)	92%	76%	90%
18.	Withdrawals (Grade = W)	7	22	11
*19.	Persistence Fall to Spring	72%	78%	72%
19a.	Persistence Fall to Fall	48%	51%	47%
*20.	Unduplicated Degrees/Certificates Awarded	7	14	8
20a.	Degrees Awarded	7	14	8
20b.	Certificates of Achievement Awarded	0	0	0
20c.	Advanced Professional Certificates Awarded	0	0	0
20d.	Other Certificates Awarded	0	0	0
21.	External Licensing Exams Passed	0	0	0
22.	Transfers to UH 4-yr	59	42	24
22a.	Transfers with credential from program	20	20	11
22b.	Transfers without credential from program	39	22	13

	Distance Indicators	2016 - 17	2017 - 18	2018 - 19
23.	Number of Distance Education Classes Taught	9	10	9
24.	Enrollments Distance Education Classes	227	147	173
25.	Fill Rate	96%	49%	70%
26.	Successful Completion (Equivalent C or Higher)	92%	67%	93%
27.	Withdrawals (Grade = W)	5	18	7
28.	Persistence (Fall to Spring Not Limited to Distance Education)	93%	88%	75%

	Perkins Indicators	Goal	Actual	Met
29.	1P1 Technical Skills Attainment	93	92.31	Not Met
30.	2P1 Completion	55	28.21	Not Met
31.	3P1 Student Retention or Transfer	81.9	100	Met
32.	4P1 Student Placement	66.25	48.39	Not Met
33.	5P1 Nontraditional Participation	N/A	N/A	N/A
34.	5P2 Nontraditional Completion	N/A	N/A	N/A

	Performance Indicators	2016 - 17	2017 - 18	2018 - 19
35.	Number of Degrees and Certificates	7	14	8
36.	Number of Degrees and Certificates Native Hawaiian	1	7	2

37.	Number of Degrees and Certificates STEM	Not STEM	Not STEM	Not STEM
38.	Number of Pell Recipients[1]	2	6	3
39.	Number of Transfers to UH 4-yr	59	42	24

* Used in Rubric to determine Health Indicator   **Date Last Modif**

Glossary/Rubric

ABIT Program Data (PaulK)

ABIT	60 Total TEs taught in ABIT		
		12 TEs taught by non-ABIT BoR instructors	
		0 TEs taught OUT	
	849 total SSH taught from ABIT courses		
		Estimated Tuition Total of $264,133.5	
		Estimated Salary Total	100000
		510 SH taught to ABIT majors	
		339 SH taught to Non-ABIT majors	