

University of Hawaii Maui College

2011 Annual Report of Instructional Program Data

Applied Business and Information Tech

Program Mission:

Program Mission Statement

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. Currently, the ABIT program offers upper-division courses to students who complete their lower division courses in another program (such as Business Careers, Option III). The ABIT program serves a diverse student population, many of whom are first generation 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 upper-division courses over a two year period. However, many students take longer to complete this degree based on personal and professional constraints and commitments.

Part I: Program Quantitative Indicators

Overall Program Health: **Cautionary**

Majors Included: ABIT

Demand Indicators		Program Year			Demand Health Call
		08-09	09-10	10-11	
1	New & Replacement Positions (State)	207	307	292	Cautionary
2	New & Replacement Positions (County Prorated)	25	33	32	
3	Number of Majors	39	42	39	
4	SSH Program Majors in Program Classes	345	282	433	
5	SSH Non-Majors in Program Classes	137	136	228	
6	SSH in All Program Classes	482	418	661	
7	FTE Enrollment in Program Classes	16	14	22	
8	Total Number of Classes Taught	14	14	19	

Efficiency Indicators		Program Year			Efficiency Health Call
		08-09	09-10	10-11	
9	Average Class Size	11.9	9.6	11.8	Cautionary
10	Fill Rate	49%	38%	50%	
11	FTE BOR Appointed Faculty	2	3	3	
12	Majors to FTE BOR Appointed Faculty	19.5	13.8	13	
13	Majors to Analytic FTE Faculty	24.5	26.1	18.2	
13a	Analytic FTE Faculty	1.6	1.6	2.1	
14	Overall Program Budget Allocation	Not Reported	\$177,671	\$212,213	
14a	General Funded Budget Allocation	Not Reported	\$276,671	\$116,439	
14b	Special/Federal Budget Allocation	Not Reported	\$0	\$0	
15	Cost per SSH	Not Reported	\$425	\$321	
16	Number of Low-Enrolled (<10) Classes	4	8	6	

Effectiveness Indicators		Program Year			Effectiveness Health Call
		08-09	09-10	10-11	
17	Successful Completion (Equivalent C or Higher)	91%	84%	78%	Cautionary
18	Withdrawals (Grade = W)	1	7	19	
19	Persistence (Fall to Spring)	85%	92%	85%	
20	Unduplicated Degrees/Certificates Awarded	4	9	3	
20a	Degrees Awarded	4	9	3	
20b	Certificates of Achievement Awarded	0	0	0	
20c	Academic Subject Certificates Awarded	0	0	0	
20d	Other Certificates Awarded	0	0	0	
21	Transfers to UH 4-yr	2	1	1	
21a	Transfers with credential from program	0	0	0	
21b	Transfers without credential from program	2	1	1	

Distance Education: Completely On-line Classes		Program Year			
		08-09	09-10	10-11	
22	Number of Distance Education Classes Taught	5	5	4	
23	Enrollment Distance Education Classes	64	48	48	
24	Fill Rate	43%	37%	46%	
25	Successful Completion (Equivalent C or Higher)	95%	77%	85%	
26	Withdrawals (Grade = W)	1	3	2	
27	Persistence (Fall to Spring Not Limited to Distance Education)	97%	83%	78%	

Perkins IV Core Indicators 2009-2010		Goal	Actual	Met	
28	1P1 Technical Skills Attainment	90.05	0	Not Met	
29	2P1 Completion	44.50	0	Not Met	
30	3P1 Student Retention or Transfer	55.50	0	Not Met	
31	4P1 Student Placement	50.50	0	Not Met	
32	5P1 Nontraditional Participation	N/A	N/A	N/A	
33	5P2 Nontraditional Completion	N/A	N/A	N/A	

Last Updated: August 25th, 2011

Part II: Analysis of the Program

I. Analysis

Program Learning Outcome Assessment

In the year 2010-2011, all nine PLOs of the ABIT program were assessed by the learning outcome of one capstone ABIT course (BUS 495) conducted in the spring of 2011. No other courses were used to assess any ABIT PLOs in the year 2010-2011. Based on this limited assessment scheme, the data from the capstone course was the only assessment evidence.

Assessment tools or methods used

The ABIT capstone course, BUS 495, was the only course used to collect assessment data of the ABIT PLOs. The data was collected in two stages. Stage 1 involved convening the ABIT advisory board to review the business proposals of the students in the capstone class. Stage 2 involved mentoring and guiding the students throughout the course of the semester. Stage 3 involved a final presentation by the students to the community, which included members of the ABIT advisory board, faculty, students and staff of UHMC and other attendees. The instrument used to collect assessment evidence during the final presentation involved a brief survey that was handed out to all advisory board members as well as members of the audience present. The results of the survey was tabulated and analyzed by Dr. Debasis Bhattacharya in May 2011.

Summative Evidence

During the year 2010-2011, the evidence collected to assess the PLOs are displayed in Table 4. The evidence was collected solely by the results of a survey conducted during the final presentation of the capstone course BUS 495 in May 2010. This evidence is limited and narrow. Table 4 displays the best match between the survey questions and the corresponding PLO.

Table 4: Assessment Evidence

Question from Capstone Survey and Corresponding PLO (in italics)	Survey Results
<p>1. Did presenters show the existence of an "opportunity"</p> <p>2. Did they convince you of the existence of a "market?"</p> <p>3. Do they have a competitive advantage or edge with their "concept?"</p> <p>4. Do they exhibit plausible strategic planning?</p> <p>5. Have students demonstrated an ability to project the plan's future income, breakeven point, balance sheet and cash flows?</p> <p>6. Students display an ability to use financial ratios in evaluating the company finances, operations and market value.</p> <p>7. Is there a "fatal flaw" in their plans?</p> <p><i>PLO1 - Apply knowledge of essential business disciplines including accounting, economics, finance, law, management, and marketing, and use business research methods to analyze information in order to develop solid business plans and strategies, and make efficient business decisions.</i></p>	<p>Q1 to Q4 > 4 score out of 5</p> <p>Q5 to Q7 were average at 3</p>
<p>Did their presentation show <u>overall</u> "planning and execution" skills?</p> <p><i>PLO2 - Use leadership and interpersonal skills to promote business ethics, values, and integrity related to professional activities and personal relationships.</i></p>	<p>Avg. Scores were > 4 out of 5</p>
<p>Discussion of general web technology concepts and topics.</p> <p><i>PLO3 - Demonstrate knowledge of operating system, word processing, spreadsheet, presentation software, database management, computer troubleshooting, web development, and e-commerce.</i></p>	<p>Avg. Scores were > 4 out of 5</p>

<p>Demonstration of web site (graphics, layout, usability etc.):</p> <p><i>PLO4 - Apply knowledge of graphical user interface (GUI) and event-driven programming (EDP) to designing, creating, and testing computer programs.</i></p>	<p>Avg. Scores were > 4 out of 5</p>
<p>Explanation of relevant social media and e-commerce technology</p> <p><i>PLO5 - Apply knowledge of e-commerce by designing, creating, and testing appropriate e-commerce sites and development tools.</i></p>	<p>Avg. Scores were > 4 out of 5</p>
<p>Demonstration of innovation in web technology to support business goals.</p> <p><i>PLO6 - Apply critical thinking skills to evaluate information, solve problems, and make decisions.</i></p>	<p>Avg. Scores were > 3.5 out of 5</p>
<p>Demonstration of social media tools in web site (Facebook, Twitter etc.)</p> <p><i>PLO7 - Use information retrieval and technology.</i></p>	<p>Avg. Scores were > 3.5 out of 5</p>
<p>Demonstration of competitive edge using web technology</p> <p><i>PLO8 - Apply quantitative reasoning to enhance independent or group decision-making skills.</i></p>	<p>Avg. Scores were > 3.5 out of 5</p>
<p>Did they show examples of "field research?"</p> <p>Overall integration of vision, business plan and technology</p> <p>Did the presentation match the original Vision and Mission Statement?</p> <p><i>PLO9 - Communicate effectively with other utilizing appropriate forms of oral and written communication methods including multimedia presentations that apply information technologies and serve particular audiences and purposes.</i></p>	<p>Avg. Scores were > 4 out of 5. Mostly Yes.</p>

Starting the year 2011-2012, the ABIT program will develop a rubric to track the nine PLOs in the new pair of capstone courses BUS 495 and BUS 496. A proposed template is shown in Table 5. No rubric was used to collect and analyze data during the review period of 2010-2011.

Table 5: Proposed Assessment Rubric Template

Program Assessment Rubric for ABIT Course XXX for YEAR YYYY				
	Exceeds	Meets	Needs Improvement	No Proficiency
Student Learning Outcome				

Average SLO for the course				
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What we discovered about student learning

Given that the results of this program review is entirely based on the data collected at the end of the BUS 495 capstone course in May 2011, the findings are limited and restricted. Key points:

- The final capstone presentation lacked depth in technology and accounting practices
- The students who presented in May 2011 lacked conviction in their business passion
- The choice of business projects limited some students from meeting all PLOs

Given that the ABIT program blends business and information technology, here are other points:

- Students learned a blend of skills covering marketing, finance, accounting, information technology, economics and other general education courses
- Students learned soft skills that included the following: business research, critical thinking, research writing, team collaboration, team and individual presentations
- Students valued a rigorous curriculum when there was relevance to an real life scenario
- Students valued internships and job placements opportunities that provided them with career opportunities and options with local firms and organizations
- Students valued the inclusion of advisory board members during their capstone project

Evidence that results of student learning was discussed with Advisory Board

The capstone course BUS495, taught in the spring semester of 2011 was monitored by several members of the ABIT advisory board. These advisors were present from the initial presentation in February 2011 through the final presentation in May 2011. Several advisors, such as Refugio Gonzalez, Virendra Nath, Tim Georges, Mark Ausbeck and Pete DeMichele provided mentoring, coaching and personalized advisory services to the ABIT students during the entire semester.

Changes made in ABIT curriculum to improve student learning

Several changes were made in the fall of 2011 to improve student learning. These include:

- The ABIT capstone course has been proposed to be split into two courses, ABIT 495 and ABIT 496, to allow students to finalize their business plan in the first fall semester, followed by supporting technology and presentation plan in the second spring semester
- To reflect the skills and experience of the new ABIT faculty, Refugio Gonzalez, two new upper division courses have been proposed in the ABIT curriculum. BUS 310 covers decision analysis using statistics and FIN 311 covers introductory financial investments.
- Several upper division courses in information technology and business require a pre-requisite of math calculus. As a result, a course in business calculus is proposed a part of the ABIT curriculum as a mandatory pre-requisite to upper division ICS courses in IT.
- The senior year course in Marketing, MKT 400, is upgraded to include digital marketing
- A mandatory requirement proposes the inclusion of an internship in the senior year

Program strengths and challenges

Given that the ABIT program is now past its fifth year in existence, here are five strengths:

- The ABIT program blends business and technology disciplines into a unique BAS degree
- Students in the ABIT program are prepared for careers as business entrepreneurs, as well as careers in high technology. Students often enroll in graduate school to pursue advanced degrees. This variety in careers is primarily due to the blended curriculum
- Students value the opportunity to work on internship opportunities with local firms
- Students can avail of merit scholarships, a dedicated ABIT lounge and other amenities
- Students can obtain mentoring and guidance from the ABIT advisory board

As in any other program, the ABIT program also faces specific issues and challenges:

- The existing deficiency in math preparation in calculus, which is subject to change in 2012, hinders students from gaining the depth of knowledge in several IT courses
- The lack of assessment activities, above and beyond the capstone course, prevents the ABIT faculty and program committee to

assess the core ABIT courses against the PLOs

- Many students fail to take ABIT courses in the recommended sequence. Since many courses are offered only once a year, this results in an overall delay in graduation
- The number of graduating students is flat over the past two years, and the enrollment numbers do not indicate an upward trend in graduation rates during the years 2012-2016
- The inability to offer the entire ABIT program as a distance learning program prevents many students who reside outside Maui County to enroll and complete the ABIT program

UHMC Instructional Annual Report on Program Data

The ABIT program received an overall program health rating for 2010-2011 of Cautionary. Demand and efficiency indicators received a Cautionary rating. Effectiveness was also rated as Cautionary. The SOC code for the ABIT program is 11-1021, and according to the Bureau of Labor Statistics (at URL <http://www.bls.gov/soc/2010/soc111021.htm>), the code represents:

11-1021 General and Operations Managers

Plan, direct, or coordinate the operations of public or private sector organizations. Duties and responsibilities include formulating policies, managing daily operations, and planning the use of materials and human resources, but are too diverse and general in nature to be classified in any one functional area of management or administration, such as personnel, purchasing, or administrative services. Excludes First-Line Supervisors.

Illustrative examples: *Television Station Manager, Radio Station Manager, General Superintendent*

Key data about the program health for ABIT, using SOC 11-1021, is summarized in Table 6:

Table 6: Key Data for Program Health

Demand Indicator	Number of Majors (2010-2011) = 39. New & Replacement Positions (County Prorated) = 32	ABIT Score (2010-2011) = $39/32 = 1.22$	Healthy Score > 1.5
Efficiency Indicator	Class Fill Rate (2010-2011)	ABIT Score (2010-2011) = 50%	Healthy Score > 75%
Effectiveness Indicator	Persistence (Fall to Spring) = 85%	ABIT Score (2010-2011) = 85%	Healthy Score > 75%

In general, the SOC code 11-1021 does not describe the overall employment opportunities available to graduates of the ABIT program, especially in the arena of information technology. The number of ABIT majors demonstrate a flat trend (2008-09: 39; 2009-10: 42; 2010-11: 39) and the number of new and replacement positions in the state also shows a flat trend. However, the fill rate for ABIT is at 50% and the persistence (Fall to Spring) is at 85%. The ABIT program management will monitor these indicators and take corrective actions as needed. **UHMC Instructional Annual Report on Program Data**

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Part III: Action Plan

I. Action Plan

Planned curriculum changes

The ABIT program has proposed significant changes to the UHMC curriculum committee in terms of the four year program map, as well as the introduction of key upper level courses in decision analysis and finance. The following points highlight the proposed changes:

- Starting 2012-2013 onwards, the ABIT program will be one contiguous four year program. The first two years of instruction will mirror the new Business Career III option
- The ABIT program map starting 2012-2013 involves several changes to business and management course. Key new courses include BUS 310 (Decision Analysis) and FIN 311 (Investments). The ABIT capstone will be a two semester sequences (BUS 495 and 496).
- Due to the requirement of calculus in several upper division courses, MATH 203 or 205 is proposed as a pre-requisite to upper division ICS courses as well business courses.
- The course on Marketing (MKT 400) has been upgraded to reflect modern technology and marketing methods using online technology, social media and emerging models.
- A mandatory internship project is proposed for all fourth year ABIT students.
- The courses during the first two years of the ABIT program map to the existing courses in the Business Careers Option III. Students can opt out of ABIT and receive a degree in Business Careers, or can join ABIT after completing an AAS in Business Careers III.

Assessment Support for Current and Future Goals

Given that no rubric was used in the 2009-2010 review period, and that all assessment data was collected on the basis of one survey in the capstone course, the amount of data is limited. The advisory board was present and active during the entire capstone course, and was aware of the student learning outcomes that were generated as a result of that capstone course.

Specific Goals for 2011-2012 and beyond

The feedback from Dr. John McKee, dated December 23, 2010, based on the 2009-2010 ABIT program review is incorporated below. As noted above, the ABIT program has proposed to the UHMC Curriculum Committee that the ABIT program be modified to a four year program. Assuming this proposal is approved, the specific goals for 2011-2012 and beyond include:

- The ABIT program will use the Assessment Map and Assessment Plan, as noted above in Table 2 and 3, to assess all nine PLOs, at least two times in five years
- The two new ABIT capstone courses, BUS 495 and BUS 496, will assess all nine ABIT PLOs every year. The idea is to ensure that the two capstone courses cover all PLOs and that students demonstrate all PLOs in a convincing fashion at the end of the program
- The evaluation survey used in the capstone courses will be updated to match all PLOs
- In addition to the assessment feedback provided by the ABIT capstone course, two or more additional courses will be selected for assessment every year for the next five years
- For each course slated for assessment, the SLOs in the course will be evaluated based on the actual performance of students in the corresponding assignments or project activities
- An assessment rubric will be used for all courses that are included in the assessment map
- The end-of-course capstone evaluation, along with other assignments during the two capstone courses, will allow the ABIT program to assess all nine PLOs every year
- The ABIT advisory committee will review the assessment data every six months, and provide feedback to the ABIT faculty on program modification and curriculum updates
- Coordinated marketing and recruitments activities with CareerLink to increase enrollment levels in the ABIT program, and to retain existing students in the program
- Increased outreach activities to local Maui County high schools to increase awareness and interest in the new four year ABIT program. This includes Lanai and Molokai
- Active consideration of updating all upper division ABIT courses to a distance learning modality. This could include hybrid classes, proctored exams, and live class streaming

Part IV: Resource Implications

I. Resource Implications

For the next academic year, the following items are requested to be included in the budget:

- Software licenses for ABIT students: \$100/student, for 50 licenses or \$5000
- Student assistants to coordinate internship and marketing activities: 1 FTE or \$15,000
- Upgrades to current computer equipment: \$10,000
- Subscriptions to business journals, online databases and other sources: \$10,000
- Purchase of new computer equipment for classroom instruction: \$25,000
- Travel within the state of Hawaii for recruitment and marketing: \$10,000
- Office supplies, marketing and other materials: \$5000

Program Student Learning Outcomes

Program Learning Outcomes

The program learning outcomes (PLOs) for the ABIT program is shown below in Table 1:

Table 1: ABIT PLOs

PLO1	Apply knowledge of essential business disciplines including accounting, economics, finance, law, management, and marketing, and use business research methods to analyze information in order to develop solid business plans and strategies, and make efficient business decisions.
PLO2	Use leadership and interpersonal skills to promote business ethics, values, and integrity related to professional activities and personal relationships.
PLO3	Demonstrate knowledge of operating system, word processing, spreadsheet, presentation software, database management, computer troubleshooting, web development, and e-commerce.
PLO4	Apply knowledge of graphical user interface (GUI) and event-driven programming (EDP) to designing, creating, and testing computer programs.
PLO5	Apply knowledge of e-commerce by designing, creating, and testing appropriate e-commerce sites and development tools.
PLO6	Apply critical thinking skills to evaluate information, solve problems, and make decisions.
PLO7	Use information retrieval and technology.
PLO8	Apply quantitative reasoning to enhance independent or group decision-making skills.
PLO9	Communicate effectively with other utilizing appropriate forms of oral and written communication methods including multimedia presentations that apply information technologies and serve particular audiences and purposes.

Proposed Map of Program Learning Outcomes by Course

As documented in the ABIT Program Review of 2009-2010, the ABIT program had mapped the above nine PLOs to the outcome of one Capstone course (BUS 495). Based on the recommendation from Dr. John McKee, dated December 28, 2010, there is a UHMC requirement that "each course in the ABIT program review needs to show at what level (0-3) it supports the program learning outcomes". Following the recommendation, Table 2 displays a proposed map of 10 of the core business and information technology courses to the corresponding PLO. Note that some courses listed below (ex. FIN 311 and BUS 496) are new courses slated for fall semester of 2012, pending UHMC curriculum approval:

Table 2: Proposed Map of PLO and Selected Courses

	ACC 300	MKT 400	BUS 320	COM 459	FIN 311	ICS 360	ICS 385	ICS 418	BUS 495	BUS 496
PLO1	3	3	0	3	0	0	0	3	3	
PLO2	1	2	2	3	1	0	0	0	3	3
PLO3	0	0	0	0	0	3	3	3	1	3

PLO4	0	0	0	0	0	3	3	3	1	3
PLO5	0	0	0	0	0	3	3	3	1	3
PLO6	2	2	2	2	2	2	2	2	3	3
PLO7	1	1	1	1	1	3	3	3	1	3
PLO8	2	2	1	2	2	2	2	2	3	3
PLO9	2	2	3	2	2	2	2	2	3	3

Proposed Assessment Plan: Time Table

The recommendation from Dr. John McKee, dated December 28, 2010, noted that there is a UHMC requirement that “each PLO needs to be assessed twice during a five-year review cycle”. Following the recommendation, Table 3 displays a proposed assessment plan of the 9 PLOs at least twice during the next five years starting 2011-2012. Note that some courses listed below (ex. FIN 311 and BUS 496) are new courses pending UHMC curriculum approval. Also, the new capstone courses, BUS 495 and BUS 496, will be used to assess all nine PLOs in every year:

Table 3: ABIT Assessment Plan: Time Table

Years	ACC 300	MKT 400	BUS 320	COM 459	FIN 311	ICS 360	ICS 385	ICS 418	BUS 495	BUS 496
FA 11								PLO 4		
SP 12			PLO 6			PLO 3	PLO 5		PLO 1-9	
FA 12		PLO 1						PLO 4	PLO 1-2, 8-9	
SP 13				PLO 2	PLO 1		PLO 5			PLO 3-7
FA 13	PLO 8							PLO 7	PLO 1-2, 8-9	
SP 14			PLO 6			PLO 3	PLO 9			PLO 3-7
FA 14		PLO 1						PLO 7	PLO 1-2, 8-9	
SP 15					PLO 1		PLO 9			PLO 3-7
FA 15	PLO 8								PLO 1-2, 8-9	
SP 16				PLO 2						PLO 3-7