BOARD OF HIGHER EDUCATION

REQUEST FOR COMMITTEE AND BOARD ACTION

COMMITTEE: Academic Affairs **NO**.: AAC 13-07

COMMITTEE DATE: October 9, 2012

BOARD DATE: October 16, 2012

APPLICATION OF BENJAMIN FRANKLIN INSTITUTE OF TECHNOLOGY TO AWARD THE BACHELOR OF SCIENCE IN HEALTH INFORMATION TECHNOLOGY

MOVED: The Board of Higher Education hereby approves the Articles of Amendment of **Benjamin Franklin Institute of Technology** to award the **Bachelor of Science in Health Information Technology.**

Authority: Massachusetts General Laws, Chapter 69, Section 30 et seq.

Contact: Dr. Shelley Tinkham, Assistant Commissioner for Academic, P-16 and Veterans Policy

BOARD OF HIGHER EDUCATION

Benjamin Franklin Institute of Technology
Bachelor of Science in Health Information Technology

INTENT

Benjamin Franklin Institute of Technology (BFIT) a New England Association of Schools and Colleges (NEASC) accredited, private coeducational institution, located in Boston, MA, requests authorization to offer the Bachelor of Science in Health Information Technology (HIT). The mission and purpose of the proposed program is to provide students an opportunity to develop technical expertise along with managerial and organizational skills.

Health Information Technology is the exchange of information through electronic health records. The degree combines the knowledge necessary to support the technical infrastructure with an understanding of the managerial issues related to exchange of data among various medical entities. Together these prepare an individual to work within a field that blends two areas critically important to the economic success and well-being the New England region: health care and information technology. As the job market demands increasing interdisciplinary ability, the Institute has established a strategic priority on the development of additional enhanced learning pathways of this type which combine existing knowledge and courses in new combinations to meet emerging job requirements. The college's established programs, such as Bachelor of Science in Automotive Management and Associate of Science in Medical Electronics, utilize the combined curricula approach upon which the proposed program will be based.

Current and anticipated need at the national level was assessed using Bureau of Labor and Statistics (BLS) data, and other federal government documents related to HIT. According to the Bureau of Labor Statistics, HIT jobs are expected to grow 20% over the years 2008 to 2018, placing HIT in the highest category of anticipated growth for the years ahead. Included in the federal American Recovery and Reinvestment Act (ARRA) of 2009 was the Health Information Technology for Economic and Clinical Health Act (HITECH Act). This act outlines three critical prerequisites to a transformed health system, one of which is a skilled workforce that can facilitate the implementation and support of an electronic healthcare system.

Preliminary results of a recent survey conducted of 60 BFIT students in Computer Engineering Technology and Computer Technologies courses show that 87 percent of respondents consider enrolling in a bachelor's degree program upon completion of their associate degree program. When 44 students were asked if BFIT were to offer a bachelor's program in Health Information Technology (as described in the introductory text of the survey) how likely would they be to continue their education at BFIT, 26.7 percent responded very likely and 46.7 percent responded somewhat likely..

The program was approved by the institution's Board of Trustees on March 11, 2011.

INSTITUTIONAL OVERVIEW

For over one hundred years, Benjamin Franklin Institute of Technology has been educating technologists. The institute is Benjamin Franklin's living legacy in Boston. It evolved directly from his bequest of £1000 to "the Inhabitants of the Towne of Boston," set forth in a codicil to his will dated 1789. In his codicil, he wrote, "I have considered that among Artisans good

Apprentices are most likely to make good Citizens." He specified that for the first hundred years his bequest be used as a revolving loan fund to help young married tradesmen start their own businesses, the fund managers to be the Selectmen of the Town of Boston and the ministers of the oldest Episcopalian, Congregational, and Presbyterian churches in the town. This money eventually came to the Institute through a fund established to hold the trust's money.

With the demise of the apprentice system in the 19th century, the Franklin Fund managers decided that Dr. Franklin's intentions could best be served by some form of public education serving the people of Boston. In December 1904, Andrew Carnegie who was an admirer of Franklin agreed to match the money in the Franklin Fund to build the College on two conditions: that the new school be an industrial school similar to the Cooper Union and New York City's Mechanics' and Tradesmen's School, and that the City of Boston provide the land. The agreement was struck. The institution began as the Franklin Union. It would change its name again to the Franklin Institute of Boston in 1961. In 2001, the College became the Benjamin Franklin Institute of Technology.

In 1957, the institution received approval to grant the Associate in Engineering degree; and by 1971 students could choose from six associate degree programs. In 1983, approval was given to award the Associate in Science in Automotive Technology degree; and in 1995, BFIT was authorized to award the Bachelor of Science in Automotive Technology. In 2006, the institution was approved to offer the Honorary Bachelor of Humane Letters and Associate in Science in Opticianry. In 2011, the institution was approved to change the Associate in Engineering degrees to Associate in Science degrees in Architectural Technology, Computer Engineering Technology, Computer Technology, Electrical Technology, Electronic Engineering Technology, Mechanical Engineering Technology, and Medical Electronics Engineering Technology.

The Institute currently seeks the authority to offer the Bachelor of Science in Health Information Technology.

ACADEMIC AND RELATED MATTERS

Admission Requirements

Students entering Benjamin Franklin Institute of Technology must have a high school diploma or GED. Incoming students are assessed using a variety of tools to develop a profile of the individual's cognitive and non-cognitive strengths and challenges. This profile is used for placement in initial courses. Students are admitted to the bachelor's program provided they are prepared for college-level English and math. Students who require additional development before beginning college studies are admitted case-by-case or are referred for additional support.

Transfer applicants to the proposed Bachelor of Science degree program in Health Information Technology are expected to have earned an associate degree in a computer or health-related field from BFIT or another accredited college, with minimum grade point average of 2 (out of 4) and no grade less than a C in all English composition courses. The minimum math requirement to enter the program is the successful completion of a course equivalent to an MA240 Calculus I. The same expectations will be applied to second year students in the program seeking to enter the third year. The degree should be completed within 150 percent of anticipated scheduled program time, that is, within three years for associate-degreed transfer students or within six years for those who enter as freshmen.

Tuition and Fees

Based on AY2012-2013 gross tuition, total cost for the four-year proposed program is $70,100.

Projected Enrollment

The institution assumes the following enrollment through the first four years of the program.

	# of Students Year 1	**# of Students Year 2**	**# of Students Year 3**	**# of Students Year 4***
New Full Time	15	20	22	25
Continuing Full Time	0	13	23	31
New Part Time	1	1	2	2
Continuing Part Time	0	1	2	2
Total	**16 (15.5 FTE)**	**35 (34 FTE)**	**49 (47 FTE)**	**60 (58 FTE)**

Each year, half of new students are projected to be transfer students.

Curriculum (Attachment A)

This 134 credit program was developed to follow the two-plus-two model used for the institution's current Bachelor of Science in Automotive Technology degree. The two-plus-two model builds on an existing associate's degree followed by upper division courses in the junior and senior year. Students acquire both degrees during their time of study, if they stay to completion. Students must complete a total of 64 credit hours beyond the associate's degree. Transfers students with an appropriate associate's degree will, in most instances, be required to complete no more than 64 credits.

RESOURCES AND BUDGET (Attachment B)

Administration and Faculty

The proposed program will be housed within the existing Computer Technologies department and will share administrative and instructional resources with that department. The college plans to hire an additional full-time faculty member prepared in the discipline within the first six months. The institution will use current faculty resources for implementing the program since initial courses are those currently in existence at the associate's level. There are 12 current full-time faculty, four of whom are doctorally prepared, who will teach in the proposed program.

Library and Information Technology

The proposed program has acquired health information management related software applications selected from the list recommended by Commission on Accreditation for

Health Informatics and Information Management (CAHIIM). Specific library resources include the Allied Health Database through EBSCO. Because of BFIT's other medical technology programs, the library currently subscribes to two other medical databases. The required library resources are built into the proposed budget.

Financial Resources

The budget for the proposed program is provided in Attachment B.

PROGRAM EFFECTIVENESS

Upon successful completion of the Bachelor's Degree in Health Information Technology, the graduate will be able to:

- Administer computer, network and web services, and security.
- Apply and integrate the basic knowledge attained in server, networking, computer programming, scripting, web and database technologies to develop health care information solutions.
- Apply knowledge of health care concepts and terminology to the creation and maintenance of computerized information storage and retrieval systems.
- Apply HIT communication standards to improve and maintain the interoperability of health information systems.
- Effectively communicate technical observations, results, issues, and successes, in both oral and written form.
- Explain the importance of HIT concepts such as meaningful use, health information exchange, and clinical decision support.
- Observe administrative, legal, and medical constraints and rules in the implementation and use of HIT systems.
- Provide entry level computer programming and scripting to maintain and improve HIT systems.
- Recognize the need for and develop the ability to engage in lifelong learning.
- Understand mathematics, including statistics, and apply this knowledge to solve HIT related problems.
- Understand professional, ethical, and social responsibilities.
- Use scientific knowledge, including basic principles of physiology, to guide work in HIT.

Each academic department at the college undergoes a comprehensive Academic Program Review process. At the core of this review is an inquiry into the stated goals and student learning outcomes of the program. The process includes a study of student resources as well as student enrollment, retention, and graduation data. Curriculum is reviewed and analyzed and program facilities are examined to identify both physical and technological needs. The result of the academic program review process is a self-study document that provides a critical analysis of the effectiveness of the program as well as creating a blueprint for improvement to the program. A comprehensive five-year plan ensures that each program regularly undergoes this systematic review.

EXTERNAL REVIEW AND INSTITUTIONAL RESPONSE

External Review

The proposed program was reviewed by the visiting committee of Mervat Abdelhak, Ph.D., University of Pittsburgh; Doncho Petkov, Ph.D., Eastern Connecticut State University and Barbara Christe, Indiana University Purdue University Indianapolis. The evaluation included the team's review of the written proposal submitted to the Massachusetts Department of Higher Education and the site visit conducted from April 15-17, 2012.

The visiting committee found the proposed program consistent with the mission of the institution and its strategic plan for 2011-2016. The team felt that the proposed program builds on existing strengths of the current associate degree curriculum. The visiting committee's major recommendation was that a revision of the curriculum was needed in health-care related courses to ensure appropriate coverage of necessary topics and elimination of duplication. The committee also recommended the establishment of learning outcomes, which were provided and included above.

Institutional Response

The institution responded substantively to the committee's concern. The curriculum was revised and course learning objectives were submitted. Courses in medical coding were reduced. Courses in information privacy were moved to earlier in the sequence of courses. Six courses specified by the visiting committee were reviewed to remove duplicative topics and to ensure inclusion of material such as meaningful use, health information exchange standards for interoperability of health information technology, clinical decision support systems, project management, and communication standards, recommended by the Commission on Accreditation of Health Informatics and Information Technology.

PUBLIC HEARING

The required public hearing will be held in the Board of Higher Education office on September 19, 2012.

STAFF ANALYSIS AND RECOMMENDATION

After a thorough evaluation of all documentation submitted, staff is satisfied that the proposal of Benjamin Franklin Institute of Technology to award the **Bachelor of Science in Health Information Technology** degree meets the criteria set forth in 610 CMR 2.08(3) in the Degree-Granting Regulations for Independent Institutions of Higher Education, accredited by the New England Association of Schools and Colleges. Recommendation is for approval.

ATTACHMENT A: CURRICULUM OUTLINE

Undergraduate Program Curriculum Outline

Required (Core) Courses in the Major (Total # courses required = 37)		
Course Number	**Course Title**	**Credit Hours**
BS 324	Managing Organizations	3
BS 432	Human Resource Management	3
CT/EE/MD 000	Technical Elective	4
CT/EE/MD 000	Technical Elective	4
CT/EE/MD 000	Technical Elective	3
CT/EE/MD 000	Technical Elective	3
EE 101	Intro to Electromechanical Systems	3
CT 134	Introduction to Operating Systems	3
CT 143	Introduction to Programming Logic and C++	4
CT 218	Database Management Systems	3
CT 231	Linux System Administration	3
CT 233	Windows System Administration	3
CT 261	Data Communication and Networking	4
CT 263	Applied Networking	4
EN 130	College Composition I	3
EN 140	College Composition II	3
EN 320	Technical Communication	3
HI 110	Introduction to Healthcare Systems	3
HI 120	Medical Terminology	3
HI 130	Introduction to Health Information Technology	4
HI 210	Electronic Health Records	4
HI 230	Information Security in Health IT	4
HI 310	Medical Coding, Classification and Communication	3
HI 330	Introduction to Healthcare Databases	4
HI 410	Healthcare Database Management	4
HI 430	Healthcare Compliance	3
HI 445	Professional Experience (Practicum)	4

HI 450	Capstone Project	4
MA 120	College Algebra and Trigonometry	3
MA 130	Pre-Calculus	3
MA 240	Calculus I	4
MA 250	Calculus II	4
MA 290	Healthcare Statistics	3
SS 390	Legal and Ethical Issues in Health IT	3
SS 395	Current Issues in Healthcare	3
TS 240	Human Anatomy and Physiology	3
TS 242	Pathophysiology and Pharmacology	3
	Sub Total Core Credits	125
Elective Courses (Total # courses required = 3)		
SS 304	Society in Comics, Manga and Graphics Novels	3
SS 307	Contemporary Anthropology	3
SS 309	Global Topics in Sustainability	3
	Sub Total Elective Credits	9
General Education Courses (Total # courses required = 14)		
Indicate Distribution of General Education Requirements Below THESE COURSES HAVE BEEN LISTED AS PART OF THE REQUIRED CURRICULUM ABOVE		# of Gen Ed Credits
Arts and Humanities, including Literature and Foreign Languages		9
Mathematics and the Natural and Physical Sciences		23
Social Sciences		15
Sub Total General Education Credits		47
Curriculum Summary		
Total number of courses required for the degree		40
Total credit hours required for degree		134
Prerequisite, Concentration or Other Requirements: None.		

General Education Courses – COURSES ARE LISTED AS PART OF REQUIRED CURRICULUM

Course Number	Course Title	Credit Hours
EN 130	College Composition I	3
EN 140	College Composition II	3
EN 320	Technical Communication	3
MA 120	College Algebra and Trigonometry	3
MA 130	Pre-Calculus	3
MA 240	Calculus I	4
MA 250	Calculus II	4
MA 290	Healthcare Statistics	3
SS 390	Legal and Ethical Issues in Health IT	3
SS 395	Current Issues in Healthcare	3
SS 000	Humanities or Social Science electives (three courses)	9
TS 240	Human Anatomy and Physiology	3
TS 242	Pathophysiology and Pharmacology	3
	Sub Total General Education Credits	47

ATTACHMENT B: BUDGET PROJECTION

NEW ACADEMIC PROGRAM BUDGET

One Time/ Start Up Costs		***Annual Expenses***			
	Cost Categories	**Year 1**	**Year 2**	**Year 3**	**Year 4**
	Full Time Faculty *(Salary & Fringe)*[1]	$38,719	$118,481	$201,418	$205,448
	Part Time/Adjunct Faculty *(Salary & Fringe)* [1]	$2,261	$9,223	$21,943	$22,396
	Staff[2]	$17,189	$36,894	$47,755	$55,642
$1,200	General Administrative Costs[2]	$46,338	$99,458	$128,738	$149,998
	Instructional Materials, Library Acquisitions[1]	$5,000	$3,500	$1,500	$1,500
$20,900	Facilities/Space/Equipment[2]	$6,350	$8,350	$7,100	$7,100
	Field & Clinical Resources[2]	$4,800	$5,200	$5,360	$5,600
$5,000	Marketing[1]	$2,500	$2,500	$2,500	$2,500
	Other (campus operations) [2]	$28,656	$61,507	$79,613	$92,761
	TOTALS	$138,162	$329,064	$480,967	$527,743

[1] Values in this category represent estimated incremental cost to add courses, sections, faculty or materials in support of the proposed program.

[2] Values in this category represent an estimate of the college's cost per student times the estimated enrollment in the program.

One Time/Start-Up Support		***Annual Income***			
	Revenue Sources	**Year 1**	**Year 2**	**Year 3**	**Year 4**
	Grants				
	Tuition * see narrative for calculations	$220,332	$499,876	$702,265	$900,816
	Fees				
	Departmental				
	Reallocated Funds				
	Other (specify)				
	TOTALS	$220,332	$499,876	$702,265	$900,816