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Creating Pathways For High School Students To BHCC

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Running head: CREATING PATHWAYS FOR HIGH SCHOOL STUDENTS TO BHCC

Creating Pathways for High School Students to BHCC's Healthcare Programs

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Community College Leadership Academy

Abstract

Nursing, without a doubt, is one of the most popular programs at the community colleges today. If predictions are correct, there will be shortages in this field approaching a possible crisis situation. While community colleges educate 60% of the registered nurses and 63% of the allied health workers, it is not enough. Our colleges are faced with faculty shortages, a lack of clinical training sites, skyrocketing programs costs, regulations and compliances that they must fulfill, and to top all of this, students enroll at rates far exceeding their ability to accommodate. And, a group of people seemingly standing on the outside looking in, that could help alleviate the shortages if trained and educated early, are high school healthcare career majors. A collaborative effort on the part of the colleges, the high schools, students and parents must be established to help solve these problems of our nation.

Statement of the Problem

I was shocked when one of my most actively involved high school health career lead teachers stated without hesitation in a meeting with me, the guidance counselor, and the Director of Career and Technical Education that “community colleges discriminate against high school students.” I was certainly not in the position to immediately oppose her statement. I sought from that day forward to begin to investigate the situation, and to begin to work with her high school as best as I possibly could to help alleviate this situation, or at least to get to the heart of the problem. The Community College Leadership Academy has given me the opportunity to expand my work with this high school’s healthcare program as well as others. It has also given me the impetus and the opportunity to research this issue and to seek ways to help to inspire high school students who are potential candidates for associate degrees in healthcare to continue their pursuit of this highly regarded field of work. I have been additionally inspired by two Bunker Hill Community College Goals. They are: BHCC will create partnerships for pathways to college, and BHCC will prepare students for 21st Century careers. Both of these goals could adequately describe what I have attempted to do in the work on my CCLA College Project.

My College Project

Because I am concerned about continuing to help our high school students reach their career and educational goals in the healthcare field, I decided to create two programs at the college specifically designed for each high school. The program for Somerville High School was designed to do the following: inform students and teachers of the requirements of entrance into the nursing program and the medical imaging associate in science degree programs; provide mentors/role models who were former Somerville Health Career students and who are now Bunker Hill Community College students who could relate “first-hand” experiences of the work

that is required for acceptance into the program; provide tips on preparing early for college study and a career in the fields; continue to provide a means for collaboration and to keep open lines of communication between the college and the high schools.

Madison Park Vocational Technical High School's program involved a younger audience of high school healthcare students. The program for Madison Park was designed to do the following: provide a "hands-on" biology lab that would almost mirror the same class in college; assist students in learning how to use the library; provide a college professor role model in the scientific field as their workshop leader and inspirational speaker; interest students in continuing their study in science since it is a vital part of healthcare work.

Both programs' ultimate goal was to help make the study of healthcare interesting enough that students would want to remain in this field, possibly continue their college work at Bunker Hill Community College, graduate with their associate degrees, and assume professional roles in nursing and medical imaging.

Additionally, I have prepared a Healthcare Booklet for students that include: all 15 community college healthcare programs (associate, certificate and one bachelor's degree); a letter of inspiration and encouragement from me to students; the length of time required for postsecondary study for various careers; websites in the field; 14 Did You Know on the Community Colleges, etc.

Additional Background to Gain Understanding of the Industry

I have chosen to focus my study primarily on the nursing industry as it affects a student's choice of their postsecondary education and potential eventual career as a registered nurse. Prior to discussing high school issues on being accepted into the programs, it was important that I knew what the trends and issues are in the field of registered nursing in general. Many of the

same issues facing the nursing students and potential nursing students are the same issues that students from the college's associate of science degree program in medical imaging face.

Nursing Programs at the Community Colleges and Other Factors Surrounding Nurse Education

Without a doubt, the community colleges play a pivotal role in educating our nation's well-prepared registered nurses. Without the benefit of community college created nurse education programs, the nation would be in dire straits in its efforts to train well-qualified and educated registered nurses to serve our citizens' needs. The American Association of Community Colleges (AACCC) states the following:

Community colleges are vital to ensuring that adequate numbers of well-educated health-care professionals are available to meet the nation's need as they have a proven history of providing more cost-effective and efficient nursing and allied health education to professionals who share licensure pass-rates and scope of percent of the nation's new registered nurses and the overwhelming majority of allied health professionals are educated by associate degree (two-year) programs. (American Association of Community Colleges, 2007, Nursing and Allied Health, Hot Issues, ¶ 1).

Massachusetts Two-Year Programs in Registered Nursing

Bunker Hill Community College has extended its nurse education programs to help ensure more flexibility for attendance, and to increase potential slots for students that may qualify for entry. The college operates three (3) distinct full-time programs which are the day, evening and weekend nursing programs. Upon successful completion of the program, students are awarded the associate in science degree in nursing. As shown in Figure 1, every Massachusetts community college offers the associate in science degree in nursing. In addition

to the community colleges, several other institutions of higher education offer a program leading to the registered nursing licensing. Figure 1 derives information from the American Association of Community Colleges. I have edited information from their original study to show only Massachusetts two-year institutions that offer programs in the field of registered nursing, certified nurse assistant, licensed practical nursing, and allied health. In addition to the nursing associate of science degree programs, Bunker Hill Community College offers highly successful and popular associate degrees in four (4) options in the medical imaging field: medical radiography, cardiac sonography, general sonography and an evening medical radiography program.

Acute Shortage of Nurses

With the community colleges playing the major role of educating registered nurses and allied health workers throughout the nation, there still exists an acute workforce shortage of nurses. The United States Department of Labor Bureau of Labor Statistics predicts an increase of twenty nine (29) % of available registered nurses needed by in the United States by 2014. This equates to an increase of approximately seven hundred and three thousand jobs (703,000) from the 2004 number of registered nurses of 2,393,560 to 3,096,120 registered nurses for 2014. Massachusetts which ranks tenth highest among all fifty (50) states for growth in registered nurse positions, has predicted growth rates of 21%, or 93,710 registered nurses needed for the year 2014 from a high of 76,850 registered nurses in 2004. Next to retail salespersons, registered nursing is expected to create the second largest number of new jobs among all occupations through 2014. (Bureau of Labor Statistics, 2006).

The question remains, “Why do we have such shortages in professionally trained registered nurses?”

Reasons for the Shortage of Registered Nurses

Sigma Theta Tau International Honor Society in Nursing (June, 2007), cites four prominent reasons that there is an acute shortage of nurses in the United States. These are as follows:

- Steep population growth resulting in a growing need for health care services,
- A diminishing pipeline of new students in nursing, and
- An aging nursing workforce.
- In addition, with improved technology and managed-care issues, only the sickest patients require hospital stays and intense treatment. Thus, skilled and specialized nurses are in great demand.

From the list above, I will primarily focus on the second reason given above: “A diminishing pipeline of new students in nursing.” This factor is one that we can affect at the community college level.

Increasing Need for More Students in the Registered Nursing Pipeline

As I have previously mentioned, colleges across the nation are seeking ways to increase their registered nurse education programs, but these efforts are not sufficient to meet the forecasted need of 703,000 new registered nurses by the year 2014. By the year 2020, the nation is set to face a shortage of over one million new registered nurses per the Health Resources and Services Administration.

Why are colleges not able to educate and enroll enough potential registered nurse candidates for those hundred of thousands of openings in the field? There are four (4) major reasons for this decrease in students in the pipeline. They are:

- Lack of nursing faculty

- The Master of Science in Nursing (MSN) is a requirement to teach at the college level. Registered nurses are able to earn a substantially higher salary working within the field, than in teaching.
- Shortage of clinical sites
- Inadequate laboratory facilities
- High cost of operating and maintaining college nursing and other healthcare programs.

After identifying the reasons that colleges are unable to have an adequate supply of nursing students in the pipeline, we are finally getting closer to the reasons for the of high school students that will qualify for the community college's associate degree programs.

Why are High School Students Not Qualifying for Entry into the Associate in Science Degree Programs at Bunker Hill Community College?

Professor and Co-Chairperson Debra Westaway of Bunker Hill Community College Nursing Department stated that of the 85 available nursing programs slots, 250 students qualify having met all of the requirements for entry into the program. Therefore, a point system has been devised by the faculty and administrators of the program for final entry by associate degree nursing candidates. Dean Roxanne Mihal, Dean of Nurse Education, adds that the points awarded qualifying students are based on academic merit. Therefore, my question has been answered. Students are only able to gain entry into the nursing program at Bunker Hill Community College on academic merit, and only after the completion of all of the college's nursing program entry requirements.

I have done all of the prior work that has eventually brought me to the point where I can be assured that there are no additional artificial roadblocks that were created to prevent high

school students from entering the associate in science nursing programs. I am now able to discuss the reasons that our high school students are not readily able to get into the college's associate degree program. These reasons may be summarized as follows:

- Competition for available slots from adults who may already have associate, bachelor's, master's, and in a few instances, doctoral degrees ("reverse degree candidates"). Reverse degree candidates is a term that I have first heard of from Dr. Andrew Scibelli. This terms signifies means people who are working toward earning a degree which is a lower academic level than their originally held highest degree.
- Lack of adequate academic preparation for many of the high school candidates
 - Placement into the developmental level on the college placement test, the Accuplacer.
 - Inappropriate or nonexistent career guidance on the variety of healthcare careers that the students may have chosen.
 - Lack of a comprehensive background in mathematics and sciences at the secondary level.

Competition from Nursing "Reverse Degree" Candidates

With beginning salaries approaching \$50,000 and in many cases exceeding \$50,000, the community college's associate of science degrees in the healthcare field present a tremendous opportunity for those committed individuals that qualify for entry and graduation. But, the key ingredient here is a tremendous opportunity for "individuals that qualify." The slots that are available in these areas are highly competitive and only those candidates that truly meet all of the requirements will be able to enter these programs. We would expect candidates with degrees to definitely outscore high school students where college academic work is concerned.

Requirements for Entry into the Colleges Associate in Science Degree in Nursing Program

Requirements are stringent for candidates who seek to qualify for entry into Bunker Hill Community College's associate in science degree healthcare programs. These requirements are necessary for successful student passing of the NCLEX-RN (National Council Licensure Exam for Registered Nurses). This examination is mandated by the National League for Nursing Accrediting Commission (N.L.N.A.C.) and the Massachusetts Board of Registration in Nursing. These organizations, respectively, accredit and approve the Nursing Program.

As noted on page 92 of Bunker Hill Community College's 2006-2007 Catalog, before a student is allowed to register for the nursing program, the following requirements must be met:

1. Attend one MANDATORY information session.
2. Possess a high school diploma or GED certificate.
3. Achieve a reading level of 10th grade or higher on the College Placement Test (CPT).
4. Complete the following courses with a grade of C or better.
 - a. One year of high school chemistry with lab or one semester of college chemistry with lab.
 - b. MAT095 Fundamentals of Algebra or placement above MAT095.
 - c. BIO203 Anatomy & Physiology I/Lab (credits for Anatomy and Physiology/Lab that were earned more than five (5) years prior to enrollment in the nursing program are not accepted).
 - d. ENG111 College Writing I.
 - e. NUR100 Drug Calculations.

After all Prerequisites are Completed:

1. Apply through the Admissions Office during the following enrollment periods: Fall Program: September 15 – December 29. Spring Program: May 1 – August 31.
2. After applying, qualified applicants will be invited to take the Nursing admissions test (Test of Essential Academic Skills).
3. Applicants must score at least 70% in reading and 50% in math and science on the TEAS (Test of Essential Academic Skills).
4. Admission to the Nursing Program will be based on a ranking system that includes student performance on the TEAS as well as performance in other courses in the nursing curriculum.

An additional statement is added which states that “applicants are accepted into the Nursing Program after evaluation of the applicant’s record by the Nurse Education Admissions Committee.” (2006-2007 Catalog, Bunker Hill Community College, p. 92).

Only those candidates who have fulfilled all of the requirements as dictated by the college, and who have officially been accepted into the program, will qualify to call themselves “nursing, or medical imaging majors” and official candidates for the Associate in Science Degree Programs in Nursing or Associate in Science Degree in one of four Medical Imaging options. In addition, whereas many colleges have a major possibly titled “pre-nursing,” Bunker Hill Community College offers no such program category. Students who desire to enter the program but who have not been accepted into the program are identified as general concentration majors as the college requires. I estimate that thousands of students could be potentially seeking the healthcare associate degrees.

Hurdles that the High School Student Must Overcome:

Of the “Prerequisites for the Nursing Program” as listed above, two that may remain as major hurdles for the high school students to overcome are numbers 3 and 4 above: achieving a 10th grade or higher on the CPT, the College Placement Test; and obtaining a C or above grade in high school or college lab chemistry class, MAT095, BIO203 Anatomy and Physiology/LAB, College Writing I and NUR100 Drug Calculations. Although, 4 with the C and above grade required in the classes sound daunting, we have found that item 3, “the student placement into college level classes” is the most difficult hurdle to overcome.

College Placement Test Placements of the High School Students

Figure 3 with information from Bunker Hill Community College 2005-2006 Fact Book that is published by the Office of Institutional Effectiveness (July, 2006) shows the college’s high student placement into developmental courses. Boston Public School students from the Class of 2005 as well as high school students from around the state, are placing at an alarming 88% into developmental mathematics. Developmental English equates to 60% for the state, and an even higher number for Boston Public School students at 72%. Developmental reading tops out at 59% of the Boston Public school students and 45% statewide. With placement rates this high, an even longer pathway has now been created for any student who has been placed into developmental courses. Each developmental course requires one semester of college work. If after taking the college placement test, the Accuplacer, and a student places into the first level of English, ENG090, Writing Skills I, and passes, there is a second level of English that is then required to be completed, Writing Skills II, ENG095. But, prior to getting into the nursing program an even higher level of English must be completed, English ENG111, College Writing I. Therefore, students placing into the lowest level of English, ENG090, must pass three courses

before the English requirement is met for the nursing program. (Bunker Hill Community College 2006-2007 College Catalog, page 92).

A student may take two development courses from different subject areas at the same time, but subsequent required courses in the same academic area cannot be taken if the lower level course in the academic area is not satisfactorily completed. A student's future desire of getting into and completing the healthcare career associate in science degree programs in nursing and medical imaging is even further delayed.

It is also surprising that so many of the high school teachers, guidance counselors and administrators are shocked when we tell them of the college placement test and its ramifications on their students who enroll in the state's community colleges. Many of the Massachusetts Tech Prep Consortia have instituted the training of local guidance counselors and academic teachers on this important college element. The Coordinator of Assessment at Bunker Hill Community College, Deborah Barrett, has gratefully agreed to train at least one person or a team of people from each member high on the administration of the test.

Reasons for Low College Placement Testing Levels

- Lack of study skills
- Break in educational histories
- ESL placement
- Educational level of parents – take for granted the “teachable” moments that educated parents provide.
- Peer pressure

Inappropriate or Nonexistent Healthcare Career Guidance

A major part of the Massachusetts Tech Prep Program, Connecting Activities and School-to-Career, has been providing exposure to students to “real-world” activities in the field. Many students have had the opportunity to participate in programs such as the Connecting Activities Healthcare Career Days, Tech Prep Healthcare Career and Educational Opportunities Programs and workshops, field trips to hospitals, or other healthcare facilities, etc. to see professionals in action in their field (such as witnessing actual surgeries from a remote location in the operating rooms at the University of Massachusetts Medical Center), or to speak with and be mentored by healthcare professionals. These activities are relevant to making students aware of the opportunities in the healthcare field. The Elementary and Middle School Technical Assistance Center states that “exposing children to career possibilities enables students to see the connections between what they are learning in school (their academic skills) and what people are doing in the “real world.” (Gerver, Shanley, O’Cummings, 2002, p. 2) But, these activities although relevant and possibly “life changing” are not reaching all students, and many high schools are unable to, or not willing to provide guidance to their students on needed career and educational connections. Most students who have attended our past programs when questioned about fields in healthcare, could in most cases name only two healthcare career professionals -- nurse and doctor.

Many of the organizations that are reaching out to expose students to healthcare careers and educational and career choices are grant funded (Tech Prep, Connecting Activities, School-to-Career). The high schools must find a way to continue institutionalizing these activities into their regular guidance curriculum if they are to help in preparing students for the healthcare career pipeline. Figure 4 is an example of information that should be disseminated to all students on potential careers in healthcare.

Figure 4, the “Suggested Program of Study Grid for the Associate of Science Degree Program in Medical Imaging” grew out of our Tech Prep work with Madison Park Technical Vocational High School Medical Assisting Program. (We are developing grids for every articulated program of study). The four years of the high school academic program of study is listed showing four years of mathematics and lab sciences as a recommendation for students. The college’s program of study for the Associate in Science in Medical Radiography as listed in the current catalog is also included. (2006-2007 College Catalog, Bunker Hill Community College, p. 90)

This Suggested Program of Study Grid (Figure 4), provides students career information on the variety of careers that are available in the medical imaging field; a list of the other Massachusetts community colleges that offer the same program; and educational and career websites. The creation of these grids and subsequent communication of this information to the guidance counselors, student and parents are “required priorities” for the Tech Prep Consortia.

Figure 1

Registered Nurse, Licensed Practical Nurse, Certified Nurse Assistant, and Allied Health

Professions Programs at Two-Year Institutions

(Adapted to show Massachusetts colleges only)

NAME OF COLLEGE	Certified Nurse Assistant	Licensed Practical Nurse	Registered Nursed	Allied Health
Bay State College				X
Becker College-Worcester, MA	X		X	X
Berkshire Community College		X	X	X
Bristol Community College	X		X	X
Bunker Hill Community College			X	X
Cape Cod Community College	X		X	X
Fisher College				X
Gibbs College of Boston, Inc.				X
Greenfield Community College		X	X	X
Holyoke Community College	X	X	X	X
Laboure College			X	X
Marion Court College				X
Mass. Bay Community College		X	X	X
Massasoit Community College			X	X
Middlesex Community College			X	X
Mount Wachusett Community College			X	X
North Shore Community College		X	X	X
Northern Essex Community College		X	X	X
Quincy College		X	X	X
Quinsigamond Community College		X	X	X
Roxbury Community College		X	X	X
Springfield Technical Community College			X	X
TOTAL PROGRAMS FOR THE STATE AT TWO-YEAR INSTITUTIONS	4	9	22	22

Figure 2

State Occupational Projections: Long Term 2004-2014

United States Department of Labor – Bureau of Labor Statistics

Area	Title	2004 Employment	2014 Employment	Numeric Employment Change	Percent Employment Change	Average Annual Openings
United States	Registered nurses	2,393,560	3,096,120	702,570	29	120,340
California	Registered nurses	230,300	291,200	60,900	26	10,900
Florida	Registered nurses	137,940	183,480	45,540	33	7,440
New York	Registered nurses	168,020	196,470	28,460	16	6,360
North Carolina	Registered nurses	70,950	97,010	26,060	36	4,090
Ohio	Registered nurses	107,010	130,920	23,910	22	4,630
Georgia	Registered nurses	59,770	80,700	20,930	35	3,340
New Jersey	Registered nurses	80,300	100,900	20,600	25	3,700
Illinois	Registered nurses	100,050	119,360	19,300	19	4,020
Michigan	Registered nurses	83,320	100,870	17,550	21	3,500
Massachusetts	Registered nurses	76,850	93,710	16,860	21	3,290
Wisconsin	Registered nurses	48,410	64,420	16,010	33	2,610

(State Occupational Projections: Long Term. United States Department of Labor – Bureau of Labor Statistics. Retrieved May 2, 2007, from <http://www.projectionscentral.com/projections.asp?page=DisplayResults>).

Figure 3

HS Class of 2005 registered at BHCC in Fall 2005:

Need for Developmental Education

	HS 2005 Grads	Needs ESL*	Needs Dev. Reading	Needs Dev. English	Needs Dev. Math	Needs ESL	Needs Dev. Reading	Needs Dev. English	Needs Dev. Math
Boston Public Schools	307	44	113	138	167	14%	59%	72%	88%
Other Massachusetts High Schools	810	26	172	228	373	3%	39%	54%	88%
All Massachusetts High School	1,117	70	285	366	540	6%	45%	60%	88%
Out of State High School	99	1	9	12	32	1%	21%	32%	82%
Foreign High School	424	193	40	55	43	46%	40%	58%	52%
GED	61	0	8	17	36	0%	20%	45%	100%
Unknown High School	107	4	8	14	28	4%	20%	39%	82%
Total	1,808	268	350	464	679	15%	41%	57%	84%

Source: Bunker Hill Community College Institutional Effectiveness Office, 2005-2006 Fact Book, Page 35.

Figure 4

**SUGGESTED TECH PREP PATHWAY GRID MODEL FOR THE A.S. DEGREE PROGRAM IN MEDICAL IMAGING – MEDICAL RADIOGRAPHY OPTION
MADISON PARK TECHNICAL VOCATIONAL HIGH SCHOOL & BUNKER HILL COMMUNITY COLLEGE**

SUBJECTS (High School credits required)	HIGH SCHOOL PROGRAM (Suggested program of study)				COLLEGE PROGRAM (Present Required Program of Study at the College)	
	9 th Grade	10 th Grade	11 th Grade	12 th Grade*	Freshman (College 100 Level Courses)**	Sophomore (College 200 Level Courses)**
English* 4 years	English 1	English 2	English 3	English 4	College Writing I - ENG111–3 credits College Writing II - ENG112 – 3 credits	
Mathematics* 4 years	Algebra 1	Geometry	Algebra 2	Calculus/Pre- Calculus		
History and Social Studies	U.S. History	U.S. History	U.S. History & World History (1/2 yr. each)	U.S. History & World History (1/2 yr. each)	Principles of Sociology – SOC 101 – 3 credits	
Science	Biology w/Lab	Physics	Chemistry w/Lab	Anatomy/ Physiology w/Lab	Anatomy/Physiology II/Lab - BIO124 – 4 credits	
Physical Education/Health	Fitness Education ½ year					
Computer/ Information Technology					Applications/Concepts-CIT 110 – 3 credits	
Career/ Vocational Technical		Exploratory Medical Assisting Option- Medical Imaging		Medical Assisting Option-Medical Imaging Medical Assisting Option-Medical Imaging	Patient Care in Medical Imaging – MIG109 4 credits Intro to Medical Radiography - MIG107 2 credits Positioning I - MIG122 - 3 credits Medical Radiography Clinical I – MIG124 2 credits Radiologic Imaging I - MIG120 – 2 credits Imaging Technology I - MIG111 – 3 credits Positioning II - MIG126 – 3 credits	Medical Radiography Clinical III MIG222 – 4 credits Positioning III - MIG220 – 3 credits Medical Radiography Clinical IV – MIG228 – 2 credits Imaging Technology II - MIG224 3 credits Radiologic Imaging II MIG 226 – 3 credits Pharmacology of Radiology MIG227 – 1 credits Radiation Protection - MIG230 3 credits Medical Radiography Clinical V – MIG236 - 3 credits CT/Cross Sectional Anatomy – MIG234 2 credits Advanced Medical Radiography Seminar MIG238 – 2 credits
Workbased Learning			Cooperative Education	Cooperative Education	Medical Radiography Clinical II - MIG128 – 2 credits	TOTAL COLLEGE CREDITS - 63

RELATED CAREERS AND CAREER PATHWAYS IN MEDICAL IMAGING

Angiography Technologist
 Clinical Laboratory Technologist
 Radiologic Technologist
 Magnetic Resonance Imaging Technician

Bone Densitometry Technician
 Computed Tomography
 Mammography Technologist
 Radiation Therapist

Cardiovascular Technologist
 Diagnostic Medical Sonographer
 Nuclear Medicine Technologist

RELEVANT CAREER AND TECHNICAL EDUCATION EXTRACURRICULAR ACTIVITIES

Tech Prep College On-Site Visit at Bunker Hill Community College – Held this year in October, 2006.

Second Annual Community College Fair – Sponsored by BATEC, Tech Prep, TechBoston, Boston Perkins/CTE Program

Coop/internships through the High School Internship Office

Postsecondary Options

Colleges and Other Post Secondary Training Institutions

COLLEGE PROGRAMS	Associate's degree
Bunker Hill Community College *	X
Roxbury Community College	X
Holyoke Community College	X
Lawrence Memorial Hospital/Regis College	X
Massasoit Community College	X
Mass. Bay Community College	X
Middlesex Community College	X
Northern Essex Community College	X
North Shore Community College	X
Quinsigamond Community College	X
Roxbury Community College	X

Additional Resources/Websites for Medical Imaging and College Information

Massachusetts Career Information System – www.masscis.intocareers.com - Accessed using your city, zip code and user type.

Required governmental financial aid form for most U.S. colleges and other postsecondary institutions - www.fafsa.ed.gov

Bureau of Labor Statistics – www.bls.gov (Occupational Outlook Handbook – On the left choose Occupational Outlook Handbook, then Professional, then under “Health Technologists and Technicians.” then choose “Radiologic Technologists and Technicians.”

Boston Private Industry Council website – www.radiologycareersma.org.

Accuplacer Testing: www.collegeboard.com (All of the college programs require this placement test for all matriculating students).

Massachusetts Society of Radiologic Technicians – www.msrt.ma.org

MGH (Massachusetts General Hospital) Institute of Health Professions - <http://www.mghihp.edu/mi/careers.html>

Vocational Information Center leads to many apprenticeship resources - <http://www.khake.com> (See pages for Medical Imaging Career Guide).

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Hot issues, nursing. *American Association of Community Colleges*, Retrieved May 31, 2007, from <http://www.aacc.nche.edu/Content/NavigationMenu/HotIssues/Nursing/Nursing.htm>.

(Roxanne Fulcher. Community College Nursing and Allied Health Programs: Critical to Keeping Americans Healthy. ***same article***

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Bureau of Labor Statistics – Nursing

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(Facts on the nursing shortage in north america. Sigma Theta Tau International. Retrieved June 1, 2007, from http://www.nursingsociety.org/media/facts_nursingshortage.html).

Sigma Theta Tau International. Retrieved June 1, 2007, from http://www.nursingsociety.org/media/facts_nursingshortage.html).

2006-2007 Catalog, Bunker Hill Community College, page 92, Associate in Science Degree: Nursing Program, Prerequisites for the Nursing Program.

DEMOGRAPHICS OF BOSTON’S STUDENTS

<http://profiles.doe.mass.edu/home.asp?mode=so&so=277-6&ot=5&o=164&view=enr>

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Technical Assistance Center

www.emstac.org

TA

URL: <http://www.emstac.org/resources/transition.pdf>

Miriam Gerver, Judy Shanley, Mindee O’Cummings
Elementary and Middle Schools Technical Assistance Center
U.S. OFFICE OF SPECIAL EDUCATION PROGRAMS
(EMSTAC)

1000 Thomas Jefferson St., Suite 400

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www.emstac.org

Answering the question.....

What attributes are important in the development and implementation of an early career awareness and career development program?

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