

Bachelor of Applied Science: Healthcare Management and Leadership

Fall 2016



Table of Contents: Bachelor of Applied Science in Healthcare Management and Leadership

Cover Sheet for New Degree Program Proposal	3
Introduction	4
Baccalaureate Level Rigor	4
Table I : Two-year Degree Completes in Healthcare – and Business-related programs	
Table II : Entry Requirements for Healthcare Management and Leadership BAS	
Table III : General Education Requirements in Healthcare Management and Leadership BAS	
Table IV : Bellevue College Healthcare Management and Leadership BAS Coursework	
Table V : Sample Full-time Healthcare Management and Leadership Student Schedule	
Table VI : Program Assessment	
Qualified Faculty	12
Table VII : Faculty Profiles	
Selective Admissions Consistent with Open Door Institution	115
Student Enrollment	116
Table VIII : Student Enrollment	
Appropriate Student Services plan	16
Commitment to Build and Sustain a High Quality Program	18
Table IX : Administration and Staff	
Table X : Healthcare Management and Leadership BAS Program Financial Plan	
NWCCU Accreditation	20
Program Specific Accreditation	20
Pathway Options Beyond Baccalaureate Degree	21
Expert Evaluation of Program	21
Appendix I: Course Descriptions	21
Appendix II: External Expert Review	52

Cover Sheet for New Degree Program Proposal

Program Information

Institution Name: Bellevue College

Degree: Healthcare Mgmt & Leadership, BAS CIP Code: 51.0701

Name(s) of the existing technical associate degree(s) that will serve as the foundation for this program:

Degree: Allied Health, AAS-T CIP Code: 51.0000 Year Began: 2013

Degree: Diagnostic Ultrasound, AA CIP Code: 51.0910 Year Began: 1991

Degree: Neurodiagnostic Tech, AA CIP Code: 51.0903 Year Began: 2011

Degree: Nuclear Medicine Tech, AA CIP Code: 51.0905 Year Began: 2007

Degree: Radiation Therapy Tech, AA CIP Code: 51.0993 Year Began: 2011

Degree: Radiologic Tech, AA CIP Code: 51.0907 Year Began: 1991

Degree: Business Management, AAS-T CIP Code: 52.0201 Year Began: 1995

Degree: Marketing Management, AA CIP Code: 52.1401 Year Began: 1991

Planned Implementation Date (i.e. Fall 2014): Fall 2016

Proposal Criteria: *Please respond to all eight (8) areas listed in proposal criteria.*

Page Limit: 30 pages

Contact Information

Name: Thomas Nielsen

Title: Vice President of Instruction

Address: 3000 Landerholm Circle SE, MSA202, Bellevue, WA 98007-6484

Telephone: (425) 564-2442

Fax: (425) 564-6163

Email: tom.nielsen@bellevuecollege.edu



08/17/15

Chief Academic Officer

Date

Introduction

Bellevue College proposes a bachelor of applied science (BAS) degree in Healthcare Management & Leadership (HCML). This new degree will be built by extracting management concentrations from existing Healthcare Technology & Management (HCTM) and Radiation and Imaging Sciences (RAIS) BAS degree programs to create a stand-alone Healthcare Management and Leadership Degree. The reorganization of the HCTM and RAIS management concentrations into a separate, new degree under a singular Healthcare Management & Leadership program will continue to meet the needs of local employers while also improving marketability and degree recognition for graduates.

The proposed degree in Healthcare Management & Leadership will use curriculum already developed and established in 2007 as a part of the management concentration in the BAS in Radiation and Imaging Science, the college's first BAS degree. This RAIS management curriculum will be augmented and enhanced by combining it with the management curriculum of the Healthcare Management concentration within the BAS Healthcare Technology and Management degree program. The latter degree program, established in 2013, extended healthcare management opportunities to students from a variety of healthcare backgrounds, as well as to those students transitioning from management, accounting, marketing or other business related programs.

The rationale for this change is derived directly from student confusion about how to differentiate the management components of the HCTM and RAIS degree. Bellevue College found that offering management curriculums under two different healthcare programs unnecessarily complicated student choices. Often students applied to the wrong program, especially within the HCTM degree program. Reshaping the management concentrations from the HCTM and the RAIS degrees into the new HCML degree was deemed the most cost effective and student-centered solution.

The net effect of retooling these various degrees is to strengthen and clarify pathways for students and employers. As a result of this retooling, three separate, more clearly focused degrees will evolve. The original Healthcare Technology and Management (HCTM) degree will become the Healthcare Informatics (HI) degree with an emphasis in healthcare information and technology. The Radiology and Imaging (RAIS) degree will focus on advanced clinical pathways for radiation and imaging sciences. The new Healthcare Management and Leadership (HCML) degree will provide students with a guided pathway to undertake healthcare management as their chief area of study. Perhaps most important, each degree will meet the needs of local employers with greater specificity and precision.

Baccalaureate Level Rigor

Program Learning Outcomes

Bellevue College has designed the scope of the curriculum, as well as individual courses, to impart the knowledge, skills and abilities that students will need to be effective healthcare managers and leaders. Successful graduates of the program will meet all course and program learning outcomes.

The BAS in Healthcare Management and Leadership will teach the essentials of leadership and provide graduates an overview of the business and administrative functions of healthcare. Graduates will be well

suited to become managers and administrators in hospitals, clinics and healthcare centers, and equipped to execute the following program outcomes:

- Apply administrative and business skills to solve problems, evaluate outcomes, and assess quality and performance in healthcare settings
- Demonstrate an understanding of leadership, ethical and multicultural issues as they pertain to healthcare
- Apply effective communication and management practices in healthcare settings
- Apply economic and financial management principles to healthcare organizations
- Demonstrate an understanding of the impact of information technology systems and applications on healthcare organizations and workflow processes
- Demonstrate a thorough understanding of safety, quality and regulatory issues and processes in a wide range of healthcare settings
- Manage, analyze and present healthcare data for effective decision-making in support of a wide array of healthcare practices such as meaningful use initiatives, patient safety studies, and revenue cycle management
- Serve as liaison between technical and clinical functions to support users, including training and documenting the use of new technologies

Course preparation for students transferring with a technical associate's degree

The new Healthcare Management & Leadership general concentration will admit students from two types of associate's degree feeder programs – health-care and business. A concentration in Radiation and Imaging Sciences will admit students who have earned their national certification in radiologic technology, diagnostic ultrasound, radiation therapy or nuclear medicine and have met the additional prerequisite requirements outlined in Table II.

To this end, Bellevue College offers several associate degree programs in health sciences that will feed the new BAS degree program. They comprise Diagnostic Ultrasound, Neurodiagnostic Technology, Nuclear Medicine Technology, Nursing, Radiation Therapy and Radiologic Technology. The college also offers entry-level healthcare certificates in the following specializations: Clinical Lab Assistant, Emergency Department Technician, Health Unit Coordinator, Nursing Assistant Certified and Phlebotomy Technician. These certificates serve as pathways into the two-year Allied Health (AAS-T) degree, which in turn serves as a pathway to the new BAS degree program.

In addition, the College offers several associate degree programs in business that would transition well into a healthcare management & leadership degree. These degrees include Accounting, Business Management and Marketing Management. Completion rates for healthcare and business programs at Bellevue College are high and reveal a strong pool of qualified two-year graduates who could matriculate seamlessly into a BAS degree in Healthcare Management & Leadership. Graduates from these degree pathways will bring skills and knowledge from their respective fields that will form a strong foundation for the rigors of a baccalaureate degree in healthcare management.

Finally, it should be noted that completion rates at other community and technical colleges in Bellevue College's local region show great promise as a supply of applicants to the new BAS program. Table I displays the number of degree completers for these institutions, including Bellevue College, from the 2010-11 through the 2013-14 academic years. These numbers clearly indicates a sizeable pool of students

from which to draw qualified students to Bellevue's proposed Bachelor's program in Healthcare Management and Leadership.

<i>Table I: Two-year Degree Completers in Healthcare-and Business-related programs*</i>				
	2010-11	2011-12	2012-13	2013-14
Bates	132	131	129	157
Bellevue College	200	224	224	197
Bellingham Tech College	115	179	179	169
Clover Park Tech College	150	154	154	81
Everett Community College	192	208	203	237
Edmonds Community College	83	92	92	99
Green River Community College	164	170	168	134
Highline College	163	183	179	144
Lake WA Institute of Technology	234	222	221	226
Olympic College	166	171	171	169
Peninsula Community College	57	68	68	58
Renton Technical College	118	129	129	146
Seattle Central	112	107	107	110
Seattle North	145	110	108	107
Seattle South	63	49	48	34
Shoreline Community College	208	195	195	202
Tacoma Community College	221	264	264	279
TOTAL	2523	2656	2639	2549

*List includes the following Career Clusters: Health Tech; Marketing, Sales & Services; Business, Mgmt & Admin; Nursing; Health Services; Finance
Source: SBCTC

In addition to coursework associated with their respective fields of study, applicants to the BAS in Healthcare Management and Leadership will meet the minimum requirement outline in Table II, below.

<i>Table II: Entry Requirements for Healthcare Management and Leadership BAS</i>		
General Concentration in Healthcare Management and Leadership		
Prerequisites	Notes	Credits: 90
Associate degree, or equivalent credits, in a business-related or healthcare-related field	Courses may be subject to minimum grade requirements and prerequisites Students must have basic computer skills including basic PC file management, Internet navigation, and use of office products (including word processing, spreadsheet, and presentation software tools).	Total: 55
General Education	Science: Must include one lab course and at least one life sciences course. English: English Composition I Social Science: Humanities: (either Humanities or Social Science course must be a communications course) Technical Writing/Research Writing.	10 5 5 5 5

	College Level Math: Statistics	5 Total: 35
Concentration in Radiation and Imaging Sciences		
Prerequisites	Notes	Credits: 90
National Certification in radiologic technology, diagnostic ultrasound, radiation therapy or nuclear medicine	Courses may be subject to minimum grade requirements and prerequisites. Students must have basic computer skills including basic PC file management, Internet navigation, and use of office products (including word processing, spreadsheet, and presentation software tools).	Total: 55
General Education	Science: Human Anatomy and Physiology I Science: Human Anatomy and Physiology II English: English Composition I Social Science: Humanities: (either Humanities or Social Science course must be a communications course) Technical Writing/Research Writing College Level Math: Statistics	5 5 5 5 5 5 5 Total: 35

General education components

Bellevue College has planned carefully to ensure that general education credits and courses meet state guidelines for general education within applied baccalaureate degrees.¹ Over the course of the degree, the state requires that general education credits include a minimum of: ten credits of written communication skills, including English composition; five credits of quantitative skills; ten credits of humanities; ten credits of social science, and ten credits of natural science, including at least one life sciences course and one course with a lab.

All graduates of this BAS degree in Healthcare Management and Leadership will have taken 55 credits of general education, 35 credits of which are typically satisfied at the associate-degree level as confirmed by entrance pre-requisites. Bellevue College plans to work closely with other system colleges to ensure that students currently enrolled in technical associate degrees take appropriate general education courses prior to graduation. The remaining 20 credits are satisfied at the upper division level by courses in economics, philosophy, business, and communication studies. General education requirements in the Healthcare Management and Leadership degree are outlined in Table III, below.

<i>Table III: General Education Requirements in Healthcare Management and Leadership BAS</i>			
Subject	Credits	Met by pre-requisite	Met in baccalaureate
Communication Skills (Eng. Comp. required)	10	ENGL& 101 English Composition	
		ENGL 235 or 271	

¹ http://www.sbctc.edu/college/e_appliedbaccalaureates.aspx 07.01.2013

Quantitative Skills (college level math)	5	MATH 130 Statistics	
Humanities	15	From AAS-DTA transfer list	CMST 330 Intercultural Communication for the Professional
			PHIL 365 Biomedical Ethics: Theory & Practice
Social Science	20	From AAS-DTA transfer list	ECON 315 Economics of Healthcare
			HCML 325 Org. Behavior; and BUS 370 Intermediate Project Management OR HCMT 375 HIT Project Management
Life Sciences	10	Human Anatomy and Physiology I & II Or From AAS-DTA transfer list (Must include one lab course and at least one life sciences course)	
Total required	60	35	25

BAS coursework

All students take the same core management and leadership courses. The core curriculum for the program includes general education courses developed through a collaborative effort with departments such as Economics, Philosophy, Communication Studies, and Business (total 50 credits). Each concentration includes an additional 20 credits that includes specific required and elective courses. Total program credits are 180, 90 of which are met by entry requirements into the BAS program.

The BAS in Healthcare Management & Leadership is built upon courses that have already been developed and taught for the existing BAS degree concentrations in Healthcare Management and Radiation and Imaging management. These courses are shared and mingled between the two student populations to leverage instructor resources, ensure strong course enrollments, and expand availability of core courses throughout the year.

<i>Table IV: Bellevue College Healthcare Management and Leadership BAS Coursework</i>	
Baccalaureate Courses	
Core management and leadership courses (both concentrations)	Total: 70
BUS 101 Introduction to Business (pathway for students with healthcare related backgrounds), or AHE 110 Medical Terminology (pathway for students with business backgrounds)	5
HCML 320 Finance and Accounting for Healthcare Managers	5
HCML 340 Human Resources Management in Health Professions	5
HCML 350 Legal and Regulatory Aspects of Healthcare	5

HCML 401 Marketing in Healthcare Environment	5
HCML 411 Institutional Quality Management and Accreditation	5
HCML 440 New Business Planning in Healthcare	5
HCML 460 Management and Leadership in Healthcare	5
HCML 475 Capstone Project OR HCML 476 Field Studies	5
General Education Courses:	
CMST 330 Intercultural Communication for the Professional	5
PHIL 365 Biomedical Ethics: Theory & Practice	5
ECON 315 Economics of Healthcare	5
HCML 325 Organizational Theory and Behavior in Healthcare	5
BUS 370 Intermediate Project Management OR HCTM 375 HIT Project Management	5
Total Core	70
Concentration Required Courses and Electives	
	Total: 20
Concentration in General Healthcare Management and Leadership	
HCTM 301 US Healthcare Policies and Delivery Systems	5
HCTM 310 Essentials of Healthcare Informatics	5
HCTM 380 Healthcare Code Sets and Clinical Terminologies	5
Elective Courses: Choose 5 credits from the following	
HCTM 410 Systems Analysis and Process Optimization	5
HCTM 494/495/496/497 Healthcare information Technology Special Topics	5
HCML 494/495/496/497 Healthcare Management and Leadership Special Topics	5
HCML 399 Healthcare Management Independent Study	1-5
RAIT 490 Information and Imaging Management	3
Total General Healthcare Management and Leadership Concentration	
	20
Concentration in Radiation and Imaging Sciences	
RAIM 301 Essentials of Imaging and Therapy	5
RAIT 490 Information and Image Management	3
Elective Courses: Choose 12 credits from the following	
RAIM 399 Independent Study	1-5
RAIM 494/5/6/7 Special Topics	1-5
RAIT 301 Sectional Anatomy	3
RAIT 302 Body Pathophysiology	3
RAIT 303 Neuropathophysiology	3
RAIT 310 CT Instrumentation & Procedures	3
RAIT 311 Clinical Practicum — CT	12
RAIT 312 or BIOL 312 Biology of Cancer	5
RAIT 315 MRI Instrumentation & Procedures	3
RAIT 316 Clinical Practicum — MRI	12
RAIT 320 Interventional Procedures	3
RAIT 321 Vascular interventional Clinical	12
RAIT 325 Mammography	5
RAIT 326 Ultrasound Physics for Mammographers	3
RAIT 327 Breast Ultrasound for Mammographers	3
RAIT 328 Ultrasound Equipment for Mammographers	2
RAIT 329 Mammography Clinical	5

RAIT 330 Breast Ultrasound for Sonographers	3
RAIT 331 Clinical Practicum in Breast Ultrasound	12
RAIT 340 Fetal Echocardiography for Sonographers	3
RAIT 341 Clinical Practicum for Fetal Echocardiography	12
RAIT 344 Sonographer Vascular Technology	3
RAIT 345 Clinical Practicum for Vascular Sonography	12
RAIT 350 Nuclear Cardiology	5
RAIT 359 Basics of Positron Emission Tomography	3
RAIT 360 Advanced Positron Emission Tomography	3
RAIT 361 Clinical Practicum — PET	12
RAIT 401 Advanced Sectional Anatomy	2
RAIT 410 Advanced CT Procedures	3
RAIT 411 Clinical Practicum II – CT	1-11
RAIT 415 Advanced MRI Procedures	3
RAIT 416 Clinical Practicum II – MRI	1-11
RAIT 421 Clinical Practicum II – Interventional	1-11
RAIT 430 Neurosonology (3 Cr)	
RAIT 440 Pediatric Sonography (3 Cr)	
RAIT 461 Clinical Practicum II – PET (9 Cr)	
RAIT 494-7 Special Topics (1-5 Cr)	
Total Radiation and Imaging Sciences Concentration	20
Total BAS Coursework	90 Credits

Because work experience is a key part of developing a career, students in the Healthcare Management and Leadership program have the opportunity to complete a capstone course or some field studies (internship/s) in their last quarter in the program.

<i>Table V: Sample Full-Time Healthcare Management and Leadership Student Schedule</i>			
Concentration in General Healthcare Management and Leadership			
First (junior) year			
Fall	Winter	Spring	Summer
BUS 101 or HPRO 120	CMST 330	PHIL 365	HCTM 375/BUS 370
HCTM 301	HCML 320	HCML 440	
ECON 315	HCML 460	HCML 411	
Second (senior) year			
Fall	Winter	Spring	Summer
HCTM 380	HCTM 310	Elective	
HCML 325	HCML 340	HCML 475 or HCML 476	
HCML 401	HCML 350		
Concentration in Radiation and Imaging Sciences			
First (junior) year			
Fall	Winter	Spring	Summer
BUS 101 or HPRO 120	CMST 330	PHIL 365	HCTM 375/BUS 370
RAIT elective	HCML 320	HCML 440	RAIM 301 Essentials
ECON 315	HCML 460	HCML 411	RAIT 490
Second (senior) year			

Fall	Winter	Spring	Summer
RAIT elective	RAIT elective	Elective	
HCML 325	HCML 340	HCML 475 or HCML 476	
HCML 401	HCML 350		

Program faculty and the program manager will work with each student to develop an academic plan, ensuring that full-time and part-time students are able to efficiently meet their degree and career goals. Our experience with the existing RAIS and HCTM Management Concentration students is that the majority of the students enrolled have a part-time schedule (1-2 classes per quarter). An individual education plan is created for all students whether part-time or full-time.

Students attending full-time, which is typically three courses or 15 credits each quarter, finish the program in seven quarters. Students attending part-time finish the program in nine quarters or more, depending on the number of credits that they carry.

Program evaluation criteria and process

Assessment for the proposed Healthcare Management and Leadership program is based on the comprehensive student achievement and program assessment processes in place at Bellevue College for all programs. Program review occurs every five years and provides a thorough assessment of every aspect of the program. It includes strategic planning; student headcount, full-time equivalent student (FTES) and schedule trend analysis; program enrollment data, including student faculty ratios, analysis of full-time and part-time faculty ratios and other staffing indicators; student performance evaluation; an evaluation of curriculum coherency and currency, including an evaluation by the workforce advisory committee; program viability, including employment placement data and market analysis; and analysis of student demographics, program costs and revenues, retention and advising, articulation agreements, and course delivery methods.

Industry will engage in recommendation and review of the curriculum and program elements through a program advisory committee comprised of professionals from the field. Bellevue College has already established a joint advisory committee in Healthcare Management which guides both management concentrations of the HCTM and RAIS BAS programs. This committee is comprised of healthcare management professionals with a broad range of healthcare-related backgrounds, including healthcare employers. The role of this committee is to advise the program on recommended curriculum improvements; help keep the program abreast of changes in the field; assist in student recruitment and placement; and make recommendations for other changes that will keep the program current.

Until the first five-year program review occurs, staff will evaluate the Health Care Management and Leadership effectiveness by collecting and analyzing data annually on student satisfaction, preparedness, and retention; faculty assessment of student preparedness; and effectiveness of courses to meet the program outcomes. The program will be assisted in its collection of data by the College’s office of Effectiveness and Strategic Planning.

Table VI summarizes the annual schedule for the collection of data. This annual collection of data serves as preparation for the program’s five-year review.

Table VI: Annual Assessment		
PERIOD	DATA COLLECTED	RESPONSIBILITY
Spring 2017	<ul style="list-style-type: none"> • Student Survey • Faculty Evaluations • Retention Data • Faculty survey of student readiness 	Program Manager; Program Chair Dean, HSEWI, Office of Effectiveness and Strategic Planning
Spring 2018	<ul style="list-style-type: none"> • Student Satisfaction Survey • Faculty Evaluations • Retention Data • Faculty survey of student readiness 	Program Manager; Program Chair Dean, HSEWI, Office of Effectiveness and Strategic Planning
Spring 2019	<ul style="list-style-type: none"> • Student Satisfaction Survey • Faculty Evaluations • Faculty survey of student readiness • Retention & graduation data • Wage, job & progressions data 	Program Manager; Program Chair Dean, HSEWI, Office of Effectiveness and Strategic Planning
Spring 2020	<ul style="list-style-type: none"> • Student Survey • Faculty Evaluations • Retention Data • Faculty survey of student readiness • Retention & Graduation data • Wage & job & progression data • Survey of Employers 	Program Manager; Program Chair, Dean, HSEWI, Office of Effectiveness and Strategic Planning
AY 2020-21	Five – Year Review. See Below.	Program Manager; Program Chair, Program Faculty, Dean, HSEWI, VP, Instruction, Office of Effectiveness and Strategic Planning

Table VI summarizes 5-year assessment mechanisms.

Table VI: Program Assessment	
Effectiveness of curriculum/ program — continuously refines curriculum and program design, keeping the program current, including discipline-based, general education and electives	
Course evaluations by students	<ul style="list-style-type: none"> • Effectiveness of curriculum & teaching methods in courses • Effectiveness of program in skills & knowledge progression

Field studies evaluation by students and by employers	<ul style="list-style-type: none"> • Adequate balance of knowledge & skills, theory & practice • Effectiveness of program in meeting students' expectations • Effectiveness of program in meeting employers' expectations
Student survey and/or focus group mid-point through the program and at graduation	<ul style="list-style-type: none"> • Effectiveness of the program in skills & knowledge progression • Adequate balance of knowledge & skills, theory & practice • Effectiveness of program in meeting students' expectations • Effectiveness of institutional and program resources and support • Preparedness of faculty • Preparedness of students upon entering individual courses
Program statistics	<ul style="list-style-type: none"> • Student retention • Student course success • Student progression through program • Correlation of student success and training/ job experience prior to entry
Survey of HCML program faculty	<ul style="list-style-type: none"> • Preparedness of students upon entering individual courses • Preparedness of students upon entering the program
Graduate follow-up and industry feedback — assesses effectiveness of program in meeting career goals and employer expectations and uses findings to refine curriculum and teaching methodologies	
Survey of program graduates six-nine months after graduation	<ul style="list-style-type: none"> • Effect of program completion on career • Effectiveness of program in meeting job expectations • Wage and career progression
Survey of program graduates 3-5 years after graduation. IPEDS DATA	<ul style="list-style-type: none"> • Effectiveness of program in placing graduates into graduate school
Survey of employers of program graduates nine months after graduation	<ul style="list-style-type: none"> • Effectiveness of program in meeting job expectations • Observed increased skills and performance • Perceived strengths and weaknesses of current program
Oversight by Advisory Committee – provides ongoing support and program review	
Healthcare Management and Leadership Advisory Committee	<ul style="list-style-type: none"> • Completeness & relevance of curriculum to employer needs • Trends in field, technologies, practices and job markets
Survey of faculty satisfaction — assesses adequacy of program support and faculty training	
Survey of program faculty	<ul style="list-style-type: none"> • Effectiveness of institutional & program resources & support • Preparedness to teach the curriculum

Qualified faculty

As described above, this new HCML BAS program is built by extracting core and management courses from the existing Healthcare Technology & Management (HCTM) degree and management courses from the Radiation and Imaging Sciences (RAIS) BAS degree. The combined enrollment of both programs is currently 45 students (34 FTE). The new program will include concentrations in Radiation and Imaging Sciences as well as a general concentration in Healthcare Management and Leadership. We anticipate

that combined enrollment for the Healthcare Management and Leadership program will reach capacity at 60 students by the end of 2019 (45 FTE). To support this number of students, the program will need one full-time equivalent faculty (FTEF) in 2015.

Faculty teaching 300 and 400 level courses in the Healthcare Management and Leadership program will be required to hold a minimum of a master's degree with the exception of 300/400 level technical courses in Radiology and Imaging where a shortage of technically qualified faculty exists. The current faculty of the Healthcare Management and Leadership hold a minimum of a Master's degree. Faculty teaching the Radiation and Imaging Sciences Technology courses must hold an associate's degree and maintain appropriate national certification within their imaging or therapy modality as a minimum. Most of the current faculty teaching Radiation and Imaging Sciences Technology courses hold Bachelor's degrees or higher. All faculty in the program are encouraged to further their education and seek professional development. Not only is this dictum affirmed in the Faculty/College collective bargaining agreement, but is also a stated objective of both the Office of Instruction's current planning goals and the College's Academic Master Plan.

In accordance with the Washington Administrative Code, all full-time instructors teaching in the Healthcare Management and Leadership program maintain up-to-date Professional Development Plans, regularly approved and updated in conjunction with the division dean and Office of Workforce Education.

The table below describes faculty credentials, rank, and anticipated courses taught.

Table VII: Faculty Profiles			
Faculty Name	Credentials	Status	Course(s)
Anderson, Jennifer	MA Communications Studies	Tenure Track Faculty	CMST 330
Aufrecht, Monica	Ph.D. Philosophy	Adjunct Faculty	PHIL 365
Benchimol, Jason	Ph.D. Philosophy	Adjunct Faculty	PHIL 365
Fullerton, Lani	MBA,CMD, ARRT(T)	Adjunct Faculty	HCML 440 New Business Planning in Healthcare
Kato, Miranda	MA Instructional Design	Lecturer II	Healthcare Management and Leadership (HCML) courses
Radvilas, Maurya	MHA CRA ARRT (R, CT, MR)	Tenured Faculty and Chair	Healthcare Management and Leadership (HCML); Radiation and Imaging Sciences Technology (RAIT) courses
Rainge, Kevin	JD	Adjunct Faculty	HCML 350 Legal and Regulatory Aspects of Healthcare
Vchulek, Daron	MBA	Adjunct Faculty	HCML 460 Management and Leadership in Healthcare
Michelle Warfield	MA Learning in Technology	Adjunct Faculty	HCTM 301 US Healthcare Policies and Delivery Systems
Pamela Charney	Ph.D. Health Sciences/Nutrition	Program Chair Healthcare Technology and Management	Healthcare Technology and Management (HCTM) courses

Hatcher, Terry	M.S. Health Sciences/Healthcare Administration RDMS, CNMT, RT(R)(N)(CT), PET	Tenured Faculty and Program Chair Ultrasound	Radiation and Imaging Sciences Technology (RAIT) Ultrasound courses
Prekeges, Jennifer	M.S. Radiological Sciences; CNMT	Tenured Faculty and Program Chair Nuclear Medicine Technology	Radiation and Imaging Sciences Technology (RAIT) Nuclear Medicine courses
Dow, Cherish	M.S. Radiologic Science Education (2015) ARRT (R, M)	Adjunct Faculty	Radiation and Imaging Sciences Technology (RAIT) Mammography courses
O'Neal, Lorrie	A.A. Radiologic Technology ARRT (R, CT)	Adjunct Faculty	Radiation and Imaging Sciences Technology (RAIT) Computed Tomography courses
Craig, Pennie	B.S. Nuclear Medicine CNMT, NCT, CRA	Adjunct Faculty	Radiation and Imaging Sciences Technology (RAIT) Cardiac Nuclear Medicine courses
Rinehart, Joseph	MBA	Adjunct Faculty	RAIT 490 Information and Imaging Management
Windham, Serena	BS Radiologic Sciences ARRT (R, VIR)	Adjunct Faculty	Radiation and Imaging Sciences Vascular Interventional
Ellinger, Jim	Ph.D. Reproductive Physiology	Tenured Faculty	BIOL/RAIT 312 Biology of Cancer

Selective Admissions Consistent with Open Door Institution

Bellevue College continues to adhere to the basic mission of a community college as an open-door institution that provides educational access to its constituents and serves the varying educational needs of its community. The Healthcare Management & Leadership degree will hold admission criteria to the essential elements that ensure students are well-prepared to begin bachelor studies, yet will also allow the College to minimize barriers to opportunity and achievement, regardless of the origin of a student's preparation. Admission to the program will occur twice a year, fall and spring quarters.

The BAS in Healthcare Management and Leadership is designed with working students in mind. Courses are taught primarily online or through a hybrid model. In the hybrid model, degree candidates spend some time in on-campus, face to face classes, (including a synchronous remote option through Skype for Business) and some time in class through online access. The utilization of electronic delivery models allows place bound students with diverse backgrounds to earn a BAS degree.

The college chose a 2.0 minimum cumulative GPA in all courses applied to the AA degree for admission to remain consistent with its two-year required GPA for degree progression and completion. Not only has this threshold proven to be successful in existing BAS programs, but also it sets a threshold by which the college can effectively build a diverse student population.

Qualified applicants who meet the priority due date will receive first consideration. If there are more program slots than applications, applicants who do not meet the priority due date will be considered. If there are more qualified applicants than there are openings, but not enough applicants to feasibly add

additional sections, the college will admit some students and place the remainder on a wait list. Should additional slots open prior to the start of the term, students on the wait list will be admitted based on the following criteria:

- Fifty percent of the open slots will be awarded on the basis of GPA in rank ordered, i.e., 3.8, 3.78, 3.6. This will provide priority to students with a higher GPA.
- The remaining fifty percent of cohort slots will be awarded to qualified applicants by lottery. This ensures that students with admissible, yet lower GPAs are not excluded from enrollment.
- When all slots are full, any remaining qualified applicants will remain on a wait list and be considered for future terms.

The program manager and program chair, working closely with Enrollment Services, will manage the details of the recruitment and admission process. In addition to advising and recruiting students from the Bellevue College campus, the Program Manager, in conjunction with Enrollment Services outreach staff, will attend community college transfer fairs around the Puget Sound. This will assist the program in drawing from a wide and diverse applicant pool.

To assure continued fairness and consistency in its recruitment and admissions process, the program will assess these policies annually. If the program determines that changes need to be made, it will consider student recruitment, student progress and retention, student diversity, and faculty appraisal of student qualifications criteria.

Finally, to assure equity and pluralism in the recruitment and admission process, the HCML program will employ practices designed by the college's Office of Equity and Pluralism to attract a diverse student population. Directed by the Vice President of Equity and Pluralism, this office leads Bellevue College's efforts to "expand opportunities for persons of color, persons with disabilities, persons of different ethnic heritages, persons of different gender identities and orientations, and person with limited financial resources. This office will guide the HCML program in its efforts to:

- Recruit people of color who are BC program graduates and professionals to serve as role models and as members of the program's advisory committee. Such graduates and professionals will be asked to make presentations to currently enrolled associate degree students to encourage them to pursue the bachelor's degree;
- Engage in targeted marketing efforts to encourage persons of color or persons from under-served populations to apply to the program;
- Coordinate program diversity efforts with the institution's office of Multicultural Student Services;
- Apply best practices for identifying potential program hires from under-represented groups;
- Work with businesses and professional organizations to recruit their employees of color or their employees from under-served populations to enroll in this bachelor degree program, and/or to serve as members of the program's advisory board.
- Regularly assess recruitment/retention efforts from under-represented populations, and continually striving to improve the program's appreciation and respect for diversity.

Student Enrollment

Since this new degree will be comprised of existing BAS degree concentrations in the Healthcare Technology & Management and Radiation and Imaging Science programs, Bellevue College can provide information on current and estimated enrollments. The table below provides enrollment numbers for both existing management degree concentrations. The 2014-2015 FTE is calculated by the number of students enrolled in the Healthcare Management and Leadership Program core required courses multiplied by the number of credits and divided by 15 (full time credit load). The combined enrollment of both concentrations is currently 45 students (both full-time and part-time) for a total of 34 FTE. In addition, the feeder programs identified in table I above support the goal of reaching 60 students within five year period, i.e., by the end of 2020.

	2014-2015	2015-2016	2016-2017	2017-2018	2019-2020
Management concentration; BAS in Radiation & Imaging Sciences	21	23	25	30	30
Healthcare management concentration; BAS in Healthcare Technology & Management	24	27	30	30	30
TOTALS	34	38	45	50	60

Appropriate Student Services plan

As a community college, one of BC's strengths is the variety of student-focused support services that help students achieve success in accomplishing their goals. Students in the Healthcare Management and Leadership BAS program will be supported by the same high-quality student services that all students receive.

As Bellevue College has added new applied baccalaureate degrees, the college has focused on integrating support for baccalaureate students across the institution. To this end, all self-support baccalaureate programs return a portion of the tuition paid to the college to provide program support to baccalaureate students. Costs for student support have been accounted for in this program's proposed budget as "indirect costs" charged at 8% in (AY 15-16); 12% in (AY 16-17); 15% (AY 18-19); 20% in AY 19-20), and have been computed to assess for growing future needs. Use of this policy has already enabled the college, for example, to add additional FTE in enrollment services to provide transcript evaluation for incoming applied-baccalaureate students. Similarly, the college has hired individual, full-time program managers for each baccalaureate degree program. These program managers not only assist students with BAS program admission and completion, but also advise students on a myriad of student issues, including the process of applying and transitioning to graduate level education. In academic year 2013-14, the college also added a full-time librarian, dedicated specifically to the bachelor's degree programs. This hire provides another institutional touch point for BAS students. As expansion of its BAS programs continues to unfold, Bellevue College will reassess annually its need for additional staff to support BAS students under this funding model.

Beyond these student support services, Bellevue College has recently hired a new Director of Applied Baccalaureate Degrees who, in addition to program development duties, has been tasked with bolstering support programs in conjunction with the Division of Student Affairs, including assessing additional evaluation and tutoring needs for Baccalaureate students.

Access to student services

We project that at least 50% of students in the Healthcare Management and Leadership BAS program will be working. These students will be taking evening or hybrid-delivery classes. In order to ensure access to program advising, the program manager or program chair will be available for face to face appointments, or contact through email. The program manager, the single point-of-contact for BAS students, works directly with students on admission, course planning, financial aid and graduation, not to mention transition to graduate school. This single-point-of-contact model has worked well in Bellevue College's other applied baccalaureate degrees, and the college plans to continue this model for future degrees.

To provide convenient access to all students, Bellevue College has numerous services available electronically, including: online registration each quarter; online tutoring; 24/7 access to librarians through "ask a librarian"; extensive research databases suitable for baccalaureate-level research; KHAN academy links; and degree audit and transcript request.

For face-to-face connection with all students, many services have evening and/or weekend hours, including: the academic success center, the math lab, the writing lab, the science study center; counseling center; disability resource center's extended testing hours; financial aid, and the library.

The following services will be those most frequently used by baccalaureate students.

Student Advising, Retention and Success:

The model that has worked well for the college's baccalaureate programs and will be used for the new degree is the hiring of a full-time, dedicated program manager who works one-on-one with students to facilitate their success. The manager assists students with their educational planning and progress towards degree completion while supporting the program chair and faculty who conduct academic advising. The program manager and program chair consult regularly about each student's progress. Each student will have an individualized schedule and advising plan. Students can use internet advising services and degree planning worksheets to access their information. The online degree planning tool helps faculty advisors and students evaluate, monitor and track the student's progress toward completion of a degree. Student retention and student success are the college's top priorities. Students appreciate and respond to having a specific person they can go to for assistance.

Academic Success Center (ASC): The ASC assists students in successfully completing their college courses through one-on-one and group tutoring, workshops, classes and open labs in reading, writing and math.

Computer Labs: BC provides a wide variety of specialized computer and learning labs to enhance learning and student success as well as a 200-computer open lab.

Credentials Evaluation: Full-time credentials evaluators have extensive experience evaluating transcripts from accredited institutions. They will evaluate incoming students for compliance with admission

requirements and student records for all degree requirements when students near graduation. Bellevue College is committed to providing efficient time-to-degree for students, and makes every effort to accept prior learning when appropriate.

Disability Resource Center (DRC): The DRC provides assessment and accommodations for students with documented disabilities. They provide special course materials; coordinate testing for disabled students and assist faculty to provide appropriate accommodation.

Financial Aid: The financial aid office prepares and disburses federal, state, and institutional aid for all BC students. Students can monitor the process of their application online.

Job Placement: Providing help with career advancement and job placement will be priorities for the new BAS. An effective advisory board comprised of healthcare management professionals will help to identify jobs. Through the internship and/or capstone course, students will develop potential job contacts. The Center for Career Connections has been successful in helping students find jobs by providing career planning and job placement assistance and conducting career fairs. The Center for Career Connections, Program Chair, and Advisory Committee will work closely to develop and nurture internship and job placements.

Multicultural Student Services (MCS): MCS offers advising and mentoring, tutoring, emergency financial assistance, and support for the college's multicultural student population.

Online Services: All students have online access to the bookstore, records and grades, registration, advising, faculty communication, and library services. As an example of integrated services, the library has added extensive online collections and resources. Library faculty have also developed upper-division research workshops for students in applied baccalaureate programs. The distance education office provides extensive technology assistance and student services for all online students.

Veteran's Administration Programs: The Veterans Affairs Office assists all eligible veterans, reservists, dependents, and VA chapter 31 students.

Commitment to build and sustain a high quality program

Bellevue College implemented its first applied-baccalaureate degree in 2007, a second program in 2009, and a third in 2012. Another two new programs started in fall 2013, a sixth program came on board in winter 2015. The College's seventh and eighth BAS degree programs are scheduled to begin fall 2015 and fall 2016. We have been assessing and adjusting the model for program administration as more programs are added. This assessment has led to the following:

Program chair responsibilities are typically filled by full-time faculty members (see Table IX). In addition to managing the program, the BAS in Healthcare Management and Leadership chair will teach an average of two courses per quarter, providing valuable connection to and insight about many aspects of the program. Administrative responsibilities for the faculty program chair include:

- curriculum development, revision, and implementation;

- advising of students;
- marketing the program to new students;
- conducting articulation with both two-year and graduate programs;
- initiating employer outreach;
- participating in college governance; and
- engaging in ongoing program assessment to maintain the program's currency

The advising section in the student services plan states that educational planning will be handled locally from within the program by the Program Manager. The Program Manager will also:

- provide information about the program to prospective applicants;
- monitor student progress;
- guide students to other available student services to aid in their success;
- assist students with advising or course issues

The Program Manager position is a full-time exempt position. It will also provide administrative support for the program, its chair and the faculty. This model has worked well in the college's existing baccalaureate programs.

Table IX below details personnel and their duties.

<i>Table IX: Administration and Staff</i>			
Name	Title	Responsibilities	Admin Effort %
Maurya Radvilas	Program Chair	Manage BAS program, conduct program assessment, hire faculty, oversee admissions, implement recommendations of advisory committee (33% administration; 66% instruction)	33%
Kimberly Hassell	Program Manager	Provides administrative support to chair, faculty and students Provides student services assistance to applicants and students to promote student success Oversee budget, oversee admissions	100%
Total Staff FTE			1.33

The BAS in Healthcare Management and Leadership program will be funded as a self-support program. The tuition will be set at the same level as state-funded applied bachelor's degree programs, which for 2014-2015 is \$234.43 per credit. It should be noted, however, that Self-support programs do not discount tuition after 10 credits as State-support program do. Hence, total tuition for a full-time student in the HCML program will be \$10,549.35²

² Tuition calculated at (15 credits*\$234.43 per credit), with no discount after 10 credits.

The faculty are committed to develop and improve the skills of the graduates of this program in critical thinking, objective reasoning, adaptability, compassion, confidence, and respect. Faculty recognized that a variety of delivery methods must be utilized within the program to help the students develop into lifelong learners. Funds are established and earmarked to support curriculum development and updates.

The program includes courses taught 100% on-line (asynchronous) as well as hybrid courses that include on-campus (or remote synchronous) class augmented with on-line content.³ Regardless of the delivery mode, the courses include lectures with group discussions, collaborative group projects, written reports or papers, and oral presentations. To participate remotely, a student “attends” the on-campus course using an internet connection, interactive meeting software, microphone/headset, and webcam. Technology challenges have required additional technical support to the students as well as the instructor. The classroom tech aide (implemented in 2009) sets up the classroom technology and assists the student with home network and access. Synchronous remote attendance is available for place bound students unable to commute to campus for on-ground courses work. Part-time (0.5 FTE) technology support is included in the budget. Specialized instructional resources will include technology support and library subscriptions to professional healthcare publications.

Indirect funding has been included in the budget to cover the annual expenses associated with these expenses. Indirect is calculated at 8% in year one, 12% in year two, 15% in years three and four and 20% in year five, growing as the program grows. These amounts may be adjusted should the amount collected be inadequate or be in excess of expenses incurred in marketing, enrollment services, library goods and services, or finance. Bellevue College is committed to the long-term success of the new degree and will set aside funds to launch and fund the program until it collects adequate tuition to be fully self-sufficient.

Estimated program expenses and income are detailed in Table X, below.

The average yearly tuition for a FT student (15 credits/quarter): \$10,549.35
 The average yearly total application fees are estimated to be: \$5000 per year

Expenses:					
	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Administrative Salaries (Program manager - 1 FTE) ⁽¹⁾	\$48,000	\$49,440	\$50,330	\$51,236	\$52,158
Program Chair ⁽¹⁾	\$60,000	\$61,800	\$62,912	\$64,045	\$65,198
Part-time Faculty Salaries ⁽¹⁾	\$90,000	\$92,700	\$94,369	\$96,067	\$97,796
eLearning Tech Support (.5 FTE) ⁽¹⁾	\$25,000	\$25,750	\$26,214	\$26,685	\$27,166
Benefits ⁽²⁾	\$84,740	\$87,282	\$88,853	\$90,453	\$92,081
Curriculum Dev. Stipends	\$8,000	\$8,000	\$10,000	\$10,000	\$10,000
Travel, Equipment & Supplies ⁽³⁾	\$25,000	\$25,000	\$30,000	\$30,000	\$30,000

³ In all its online courses, Bellevue College strives to comply with all ADA regulations for delivery of course material

Total Direct Costs	\$340,740	\$349,972	\$362,678	\$368,486	\$374,399
Indirect Costs ⁽⁴⁾	\$27,259	\$41,997	\$54,402	\$73,697	\$74,880
Total Costs	\$367,999	\$349,972	\$362,678	\$368,486	\$374,399
Revenue:					
	Year 1	Year 2	Year 3	Year 4	Year 5
Number of FTE (includes both FT & PT)	34	38	45	50	60
Tuition ⁽⁵⁾	\$358,678	\$400,875	\$474,721	\$527,468	\$632,961
Fees	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Total Revenue	\$363,678	\$405,875	\$479,721	\$532,468	\$637,961
Program Reinvestment after Expenses and Indirect					
Balance to re-invest	\$(4,321)	\$55,903	\$117,043	\$163,982	\$263,562

- (1) Administrative, Faculty, PT Faculty & eLearning salaries show 3% increase from year 1-2, then 1.8% thereafter.
- (2) Benefits were estimated as 38% of total salaries
- (3) Travel, Professional development, goods and services: (printing of marketing materials, program admissions information, student handbook, and course materials)
- (4) Indirect: Self-support programs charged: 8% (AY 15-16); 12% (AY 16-17); 15% (AY 18-19); 20% (Thereafter). Indirect costs cover recruitment, marketing, transcript evaluation, admissions, library support, online and evening support,
- (5) Tuition for Self-support programs is \$10,549.35 annually. Calculated at (15credits*\$234.43 per credit). Self-support programs do not discount tuition after 10 credits as State-supported programs do. Hence, the \$7,182.15 State-supported tuition price is not applicable for this program.

NWCCU accreditation

In 2009, Bellevue College was granted accreditation by the Northwest Commission of Colleges and Universities (NWCCU) to offer baccalaureate degrees. The college currently offers seven bachelor's degrees: BAS in Applied Accounting, BAS in Data Analytics, BAS in Healthcare Technology and Management, BAA in Interior Design, BAS in Information Systems and Technology, BS in Nursing, and BAS in Radiation and Imaging Sciences. Baccalaureate degrees play an important role in Bellevue College's commitment to provide high quality, flexible, accessible education programs and to strengthen the economic life of its diverse community. As it did with its current slate of BAS degree, the college will seek accreditation by the NWCCU for this Healthcare Management and Leadership degree.

Program specific accreditation

The Health Sciences, Education, and Wellness Institute at Bellevue College prides itself on the quality of education offered to our students, and concerns itself with how well students will be able to perform in industry after they graduate. If, at some point in the future, an appropriate program specific accreditation

becomes an advantage for the BAS in Healthcare Management and Leadership and their graduates, the college will assess the potential benefits.

Pathway options beyond baccalaureate degree

Graduates of the existing Radiation and Imaging Sciences BAS programs have successfully completed a variety of Master programs including MBA and MHA through the University of Washington. Graduates of the Healthcare Management and Leadership BAS program are eligible for any Master's program. Both of the expert reviewers of the HCML program clearly indicated that graduates of the program would be ready and eligible for entrance to numerous graduate programs, including the Washington State University's Health Policy and Administration Master's program.

Expert Evaluation of Program

Bellevue College received external reviews from two subject matter experts in higher education. Their complete comments are included in Appendix II along with Bellevue College program staff responses. Reviewers' input was carefully considered.

The reviewers are:

- Dr. Jae Kennedy, Chair and Professor, Master's in Health Policy and Administration at Washington State University
- Dr. Carolyn A. Watts, Richard M Bracken Chair and Chairman, Department of Health Administration, School of Allied Health Professions, Virginia Commonwealth University

Appendix I: Course Descriptions

BUS 370 Intermediate Project Management – 5 credits

Examines project management theory and practice, with emphasis on scientific, technical, and medical applications. Uses PMI's PMBOK framework to explain the creation and management of projects in contemporary organizations. Cases and examples illustrate the application of this framework to real-world Waterfall, Iterative, and Agile projects. Prerequisite: Program entry requirements or instructor permission.

Learning Outcomes

- Understand and demonstrate what defines a project, and describe the role and responsibilities of a project manager.
- Explain the role, importance, and application of project management in today's scientific, technical, and medical organizations.
- Analyze and appraise the fundamental trade-offs between cost, schedule, scope, and quality embodied in any project.
- Show and explain how project requirements are converted to an appropriate Work Breakdown Structure (WBS), and define the appropriate task dependencies and sequences for the WBS.
- Explain the significance of the critical path in a project, show how the critical path is determined, and use CPM and PERT analysis to appropriately “crash” and re-plan projects.
- Describe the process groups and knowledge areas defined by PMI's Project Management Book of Knowledge (PMBOK), and explain why each is important for effective project management.
- List and explain the steps needed to initiate, plan, execute, monitor, control, and close a project in a typical organization.
- Describe and explain the documents, systems, and procedures needed to support real-world projects, and create the documents, systems, and procedures needed to support a real or hypothetical project.
- List and categorize the key players associated with a project and describe their roles.
- Describe the project management methodologies in common use (including Waterfall, Iterative & Incremental, and Agile approaches), and explain why each methodology was developed.
- List the tools that are typically used by project managers to monitor and control projects, and show how these tools are applied in real and hypothetical situations.
- Describe and evaluate representative software systems currently used to support project management.
- Use project management software to plan and re-plan a small project, and to generate an array of management reports.
- Evaluate the advantages and disadvantages of the traditional Waterfall project methodology, Iterative and Incremental Development methods, and Agile project management (including SCRUM), and recommend the appropriate approach to use in a given situation.
- Explain the relationship between project management, portfolio management, and program management.

CMST 330 Intercultural Communication for the Professional • 5 Cr.

Examines how a healthcare practitioner may engage in effective communication with culturally dissimilar individuals in a variety of contexts. Students practice intercultural strategies and skills. Prerequisite: Acceptance to the program or permission of instructor.

Learning Outcomes

- Define culture and identify various health belief systems.
- Analyze one's own cultural identity in relationship to the organizational culture.
- Describe the characteristics of intercultural competence and the methods for improving language, nonverbal communication and listening skills.
- Discuss the influence of culture on conflict and explain the various approaches to effective conflict management in the health care setting.
- Identify the components of collaborative communication in a diverse health care setting.

ECON 315 Economics of Healthcare • 5 Cr.

Covers the principles of micro and macroeconomics as applied to the healthcare industry. Examines how healthcare demand differs from that of other goods. Major topic areas include identifying and measuring the cost and benefit of marketing and government solutions to various healthcare issues, the role risk plays in the demand for and supply of health insurance, the incorporation of general healthcare, medical care, government policies and health insurance in determining impacts on private profit and social economic well-being. Prerequisite: Acceptance to the Bachelor of Applied Science Radiation and Imaging Sciences program or permission of the instructor.

Learning Outcomes

- Recognize the relevance of economics to medical care
- Be able to evaluate economic examples as they related to personal incentives, voluntary exchanges, and to recognize the key concept of opportunity cost within the context of health care issues.
- Be able to identify the drawbacks & limitations of standard economic models within these applications
- Apply economic reasoning to specific health care issues and identify appropriate benchmark of performance or success
- Be able to describe the key considerations driving demand for health care today
- Understand how the supply of health care has evolved in the US and the changing roles for health practitioners, hospitals, insurance companies and the government.

PHIL 365 Biomedical Ethics: Theory & Practice • 5 Cr.

Examine ethical issues that arise in healthcare, such as provider-patient relations, death and dying, reproductive issues, human and animal experimentation, and bioethics and public policy. Offers the knowledge and skills needed to research, analyze, and evaluate positions taken on these or related issues. Special attention is paid to the practical use of ethics in clinical practice and in public society. Prerequisite: Acceptance to the program or permission of instructor.

Learning Outcomes

- Explain ethical principles and the philosophical arguments that bear on them.
- Apply ethical principles to a broad range of biomedical issues.
- Recognize and develop strategies for dealing with varying cultural perspectives on ethical issues.

- Apply ethical principles in detailed studies of particular cases.
- Evaluate arguments for and against proposed solutions to ethical dilemmas in the practice of medicine and biological research.⁴

HCTM 301 US Healthcare Policies and Delivery Systems • 5 Cr.

Introduction to the US types of healthcare delivery systems. Students will identify laws, regulations, standards, initiatives, and payment systems; learn the impact of policies and procedures applicable to the various healthcare organizations; and gain an appreciation of the roles and disciplines of providers throughout the US healthcare system. Prerequisite: Acceptance into program or permission of instructor.

Learning Outcomes

- Relate current issues and controversies in healthcare to historical development of the United States (US) healthcare system
- Compare and contrast the US healthcare system to healthcare systems in other countries
- Outline the role of federal, state and local governments in provision of healthcare in the US, including healthcare information technology (HIT) and healthcare informatics initiatives
- Summarize the roles and structure of the types of healthcare organizations responsible for providing healthcare and the professionals who provide healthcare in the US
- Debate the strengths and limitations of current mechanisms for financing healthcare in the US
- Analyze current and pending legislation, accreditation, licensure and certification standards that affect and/or regulate healthcare delivery systems in the US
- Present the trends in US healthcare delivery systems and debate challenges moving forward

HCTM 310 Essentials of Healthcare Informatics • 5 Cr.

Examines the architecture, components and applications of healthcare information systems, including electronic medical records, health information exchange, medical patient diagnostic, monitoring and therapeutic devices and systems, lab and pharmacy systems, computerized provider order entry, and decision support systems. Also looks at trends in health information technologies and applications, and healthcare enterprise. Prerequisite: Acceptance into program or permission of instructor.

Learning Outcomes

- Evaluate the background of today's health IT landscape including electronic health records, health information exchange, clinical decision support, telemedicine, public health informatics, nursing informatics, and the role of health IT in healthcare quality and safety.
- Analyze and defend general functions, purposes and benefits of health information systems in various healthcare settings.
- Explain the federal initiatives and other significant developments that have influenced the evolution and adoption of health information systems.
- Compare and contrast different types of health information systems in terms of their ability to meet the needs of various types of healthcare enterprises.
- Assess and present how electronic health records affect patient safety, quality care, efficiency, productivity, and reporting/documentation mechanisms.
- Research and evaluate strategies to minimize major barriers to the adoption of health IT systems.

⁴ Phil 365 is currently an approved course, sanctioned by both the Curriculum Advisory Committee (CAC) at Bellevue College and the SBCTC. Bellevue College will recommend review of course outcomes by its CAC.

- Appraise the principles of healthcare data exchange and healthcare data standards in relation to patient care, productivity and data analysis.
- Develop a general outline of the hardware, software, operating system and networking considerations necessary for effective data storage and use in healthcare organizations.
- Research and present the roles and influences of device and systems vendors, and health IT solutions companies.
- Analyze the trends in consumer health informatics and other health IT trends such as gerotechnology and how the introduction of new technologies accelerate these trends

HCTM 375 HIT Project Management • 5 Cr.

Examines project management theory and practice with emphasis on project management in healthcare IT settings. Students will evaluate tools used to develop and manage healthcare IT projects and select appropriate tools for developing a project based on a case study. Prerequisite: Acceptance into program or permission of instructor.

Learning Outcomes

- Differentiate between projects and operations in healthcare settings
- Explain the roles and responsibilities of project managers in healthcare IT
- Describe the key complexities in healthcare that make application of traditional project management techniques difficult
- Compare and contrast different project management methodologies used in healthcare IT – Project Management Body of Knowledge (PMBOK) and Software Engineering Body of Knowledge (SWEBOK)
- Integrate previous learning with real-world challenges faced in healthcare IT project management
- Describe resources available for healthcare IT project management
- Summarize the decision-making process used by healthcare IT project managers in terms of cost, schedule and scope constraints
- Evaluate project management and IT management knowledge areas in terms of healthcare IT projects
- Categorize the process groups and knowledge areas included in project management and IT project management
- Develop a project management plan following appropriate steps
- Provide examples of each of the documents and files needed to successfully manage a healthcare IT project
- Identify the personnel needed for a healthcare IT project based on the type and significance of the project plan
- Discuss best strategies to involve key stakeholders in a healthcare IT project
- Evaluate examples of successful and unsuccessful healthcare IT projects and identify key problem areas
- Select and utilize appropriate software and tools to lead a healthcare IT project

HCTM 380 Healthcare Code Sets and Clinical Terminologies • 5 Cr.

Covers structured terminology systems currently in use in healthcare settings, including medical, nursing, laboratory and other allied health terminologies. Includes historical development and use of terminologies, revision processes & use in electronic health records as well as requirements for statistical reporting. Prerequisite: HCTM 310 and HCTM 320, or permission of instructor.

Learning Outcomes

- Determine structured data requirements in a given healthcare application
- Discuss the differences between structured and unstructured data

- Display an understanding of the layout of selected structured terminology systems used in healthcare
- Select the appropriate terminology system for a given healthcare requirement
- Analyze the components of structured terminologies currently used in healthcare
- Summarize the development and evolution of SNOMED CT as a comprehensive terminology
- Explain legislative requirements for use of structured terminologies in healthcare
- Develop strategies to manage terminology changes in electronic health records
- Use UMLS Knowledge Source tools to analyze terminology systems
- Examine the processes by which structured terminologies in use were developed
- Using ICD, practice coding select medical diagnoses and procedures
- Explain the uses of healthcare terminologies in reporting statistical data, morbidity, and mortality
- Describe use of ICD in development of healthcare finance and reimbursement
- Compare and contrast development and uses of medical, nursing, and allied health terminologies
- Explain the differences between hierarchical and flat terminology systems

HCML 476 Field Studies • 5 Cr.

Provides students with the opportunity to gain a deeper understanding of the healthcare environment through industry internship, practicum or series of field trips. Prerequisite: Acceptance into program and permission of instructor

Learning Outcomes

- Demonstrate professional behavior in healthcare management work setting.
- Describe components of ethical practice in a healthcare work environment.
- Document activities and experiences in healthcare management work setting.
- Present proposed individual career pathway.
- Apply concepts learned throughout courses taken to real world workplace situations.
- Engage in professional activities as directed by field studies site and/or professional mentor.
- Defend decisions related to content and format of professional portfolio.

HCTM 494/5/6/7 Healthcare Information Technology Special Topics • 5 Cr.

Presents advanced or specialized topics in the field of Health Information Technology. Topics focus on new and emerging trends in health information technology. Examples include public health information technology; public policies as they relate to health information technology; telemedicine; mobile devices in healthcare; etc. Specific topics are announced in the quarterly schedule. Prerequisite: Acceptance into program and permission of instructor.

Learning Outcomes

After completing this class, students should be able to:

- Special topics course. Outcomes will vary.

HCML 320 Finance & Accounting for Healthcare Managers • 5 Cr.

Addresses issues of financial management in healthcare systems, including budget development and analysis, equipment purchase and depreciation, salaries and benefits, and coding and reimbursement. Case studies are used to bring a contextual focus on specific healthcare departments and organizations including multinational aspects and parameters of outsourcing. Prerequisite: Acceptance to the program or permission of instructor.

Learning Outcomes

- Present and analyze the trends and current issues in healthcare finance management and accounting

- Analyze the financial environment in the healthcare industry and how it affects the role of healthcare managers in healthcare units and departments
- Identify, define and apply basic accounting principles, assumptions and constraints in the context of the healthcare system and specific healthcare departments
- Record and summarize economic transactions in accordance with generally accepted accounting principles, multinational and security requirements in reporting
- Analyze the financial cycle and value chain in the healthcare departments
- Prepare, analyze, and interpret healthcare financial statements and budgets
- Develop and justify financial recommendations using accounting data that relates to the financial decision-making process
- Develop asset projection and management plans
- Explain the concepts and elements of budgeting, costs and capital financing, working capital, and financial assessment and risk as they apply to specific healthcare departments
- Summarize the regulations and standard practices that govern healthcare finances and accounting
- Prepare, evaluate and assess general financial and accounting information
- Examine the financial roles of the different organizations in the healthcare system, including healthcare providers, insurances, labs, and patients; control systems, outsourcing requirements
- Discuss and synthesize the trends in financial, security oversights in the healthcare industry including, multinational aspects
- Analyze the process of financial planning, documentation, reporting, controls systems, security and auditing in the context of healthcare departments and outsourcing entities
- Compare the advantages and limitations of commonly used financial and accounting software products and systems in the healthcare industry, multinational, security factors
- Define and apply practices that support equipment purchase and depreciation accounting, salaries and benefits accounting and evaluation, and pricing strategies in the context of healthcare departments
- Analyze the process and issues relating to medical coding and reimbursement with an emphasis on codes relating to specific healthcare departments
- Discuss and synthesize ethical standards for the process of financial management and accounting in healthcare

HCML 325 Organizational Theory & Behavior in Healthcare • 5 Cr.

Presents theory and practice of how organizational design affects group and interpersonal interactions as it applies to healthcare. Includes organizational structures, culture, and change management. Case studies used to bring contextual focus on specific departments and organizations in the global healthcare industry. Prerequisite: Acceptance to the program or permission of instructor.

Learning Outcomes

- Investigate the issues and practices of ethical behavior and personal responsibilities in the context of healthcare organizations
- Examine the basic theory, practice and trends in organizational design, and their application to healthcare organizations
- Evaluate different organizational models including global components and identify their positive and negative aspects, and their applicability to healthcare organizations
- Identify and analyze the reporting relationships in a wide range of healthcare organizational structures
- Discuss how organizational design affects group and interpersonal interactions
- Define the various roles, functions, and levels of management in healthcare departments and units
- Evaluate communication strategies that support the organizational structure including global components
- Assess and develop action plans that support the organizational change

- Examine the legal issues and constraints relating to organization structure and behavior as they apply to healthcare organizations
- Analyze the elements of organizational culture and how different cultures lead to different employee and organization behavior
- Examine how organization structure and culture impact individual and organization performance and effectiveness in healthcare organizations
- Analyze methods and techniques of measuring the performance and effectiveness of specific healthcare departments and units
- Identify strategies that help healthcare departments maximize the potential of a diverse workforce with global/virtual components
- Discuss the issues and challenges of leading and managing healthcare departments and units
- Identify techniques in problem solving, decision making, conflict resolution, stress management that will help nurture healthcare teams
- Discuss the basic concepts and strategies of employee motivation and recognition in healthcare organizations
- Identify the specific challenges of working as a part of a virtual organization or team

HCML 340 Human Resources Management in Health Professions • 5 Cr.

Examines laws, regulations and practices relating to employment in healthcare settings, including requirements for staffing, evaluating employee performance, career development, union relationships, health, safety security, diversity issues, probation and dismissal. Case studies are used to bring a contextual focus on specific departments and organizations in a global healthcare industry. Prerequisite: Acceptance to the program or permission of instructor.

Learning Outcomes

- Examine the laws and regulations governing employment issues in the healthcare system.
- Analyze the human resource management issues of healthcare multinational organizations and workforce.
- Explain the collective bargaining issue and process in the healthcare industry.
- Describe the grievance management process in a healthcare organization.
- Acknowledge the impact of unions on the recruiting, retention and evaluation of employees in a globalized healthcare setting including outsourcing options.
- Examine how immigration, diversity, virtual environment issues relate to the recruiting and management of employees.
- Develop job descriptions and postings for employees in specific healthcare roles that abide to US and state laws and regulations, and follow standard business practices.
- Develop and compare various employee performance evaluation strategies and instruments in accord to laws and business practices in the context of healthcare departments.
- Analyze issues relating to probation and dismissal of employees, including union contracts, employee contracts and regulations in the context of healthcare departments.
- Identify the challenges in managing a diverse workforce in a globalized, healthcare organization.
- Examine employee issues, practices and regulations that relate to the hiring interview process, compensation and benefits, performance appraisals, promotions and terminations for healthcare departments.
- Evaluate the role of the human resource department in the healthcare organization and how it intersects with the role of the department hiring manager.
- Analyze various strategies that support employee development and training in healthcare departments.

- Examine the human resource management issues and trends in the healthcare organizations 15.
- Debate the specific challenges of employee evaluation in a virtual organization or team.

HCML 350 Legal & Regulatory Aspects of Healthcare • 5 Cr.

Covers laws and regulations pertaining to healthcare. Topics include contracts with equipment vendors, HIPAA and Stark laws, and insurance. Case studies are used to bring a contextual focus on specific departments and organizations in the healthcare industry. Prerequisite: Acceptance to the program or permission of instructor.

Learning Outcomes

- Present aspects of laws and regulations pertaining to healthcare (with the exception of staffing and employment issues) including legislative and constituency needs/demands and discuss their implication at the department level
- Evaluate the role and issues of the certificate-of-need process in controlling healthcare costs; include the ethics, patient outcomes regarding consumer demand for procedures, services
- Draft and review contracts with equipment manufacturers and other vendors and assess their compliance with local and federal laws
- Analyze in detail the HIPAA and Stark laws and evaluate how they impact healthcare practices
- Present laws and regulations that relate to healthcare insurance (both corporate and individual), and their implications at the department level; International/internet laws regulating patient privacy related to outsourcing, credentialing of professionals
- Examine issues of patient rights and responsibilities, and corporate responsibilities and liability
- Present the basic principles and elements of criminal and tort law and analyze healthcare case studies
- Discuss the ethics and the issues surrounding organizational responsibility and liability, and professional responsibility and liability, and analyze healthcare case studies
- Debate constraints, responsibilities and strategies relating to information management in healthcare
- Examine the trends in the legal and regulatory environment in the globalized healthcare system
- Analyze the legal responsibilities, constraints and potential liabilities relating to partnership, affiliates, global relationships

HCML 399 Radiation & Imaging Sciences Independent Study • V1-5 Cr.

Covers directed readings, special projects, and independent study by an individual student. Prerequisite: Permission of instructor.

Learning Outcomes

- The outcome for this course will be created by the student and instructor at the time that the student seeks approval for independent instruction.

HCML 401 Marketing in Healthcare Environment • 5 Cr.

Covers marketing in healthcare including aspects of business-to-business and business-to-customer. Topics include marketing strategies, cost benefit analysis, and assessment of success of marketing campaigns. Case studies are used to bring a contextual focus on specific departments and organizations in the global healthcare industry. Prerequisite: Acceptance to the program or permission of instructor.

Learning Outcomes

- Discuss the general elements and principles of marketing as they relate to various health delivery systems
- Present the basic principles and elements of market research and market analysis
- Evaluate the advantages and limitations of hiring outside consulting market research organizations
- Examine the principles of consumer behavior and market segmentation
- Assess the strategies and tools supporting environmental scanning and market surveys as they apply to healthcare organizations
- Explain the steps and strategies to identify and evaluate new market opportunities for healthcare organizations
- Discuss the basic functions of information systems in assessing market strategies
- Examine the elements and principles of positioning, pricing and competitive analysis in the context of healthcare organizations within the constraints of managed health care
- Develop and evaluate marketing and business plans for healthcare organizations and departments
- Examine the role and elements of a promotion and public relations campaign
- Debate ethical, legal, health outcomes issues relating to marketing and advertising in healthcare organizations and departments
- Develop marketing communication for a variety of audiences and purposes, and for a range of dissemination formats (newspaper, flyer, electronic...) for healthcare organizations
- Analyze the issues and strategies in repositioning a healthcare service or product to address different market segments
- Debate how economic, psychological, and socio-cultural factors affect consumer behavior and the consumer decision process as they relate to healthcare organizations

HCML 411 Institutional Quality Management & Accreditation • 5 Cr.

Covers principles of total quality management including quality assurance and quality control. Includes management of hospital and departmental accreditation including interpretation of accreditation standards, design of processes to address standards, and preparation for a site visit. Case studies are used to bring a contextual focus on healthcare. Prerequisite: Acceptance into the program or permission of instructor. Previously RAIT 495 & RAIM 410. Only one of these courses may be taken for credit: RAIT 495, RAIM 410, or RAIM 411.

Learning Outcomes

- Discuss the relationship between healthcare institutional quality management and organizational performance standards in the context of diagnostic imaging and radiation therapy departments.
- Debate the trends in quality management as they relate to the provision and reimbursement of healthcare services.
- Examine the process of standards and outcome development. Apply strategies and tools to support data collection and analysis, and compare and contrast key elements of instrumental quality control and institutional quality assurance.
- Discuss principles and applications of instrument quality control, including acceptance testing, benchmarking, longitudinal evaluation, action levels, etc. with specific tools and strategies to control errors or error processes.
- Present strategies to establish and maintain a quality environment, including patient satisfaction, outcomes assessment, and procedural performance evaluation.
- Evaluate and illustrate the use of a systems approach to quality management. Analyze the role of the various healthcare providers, vendors and customers in quality management.
- Apply strategies and tools to measure and monitor outcomes, including statistical management tools.
- Synthesize the regulations that apply to hospital and departmental accreditation and the impact of compliance and non-compliance.

- Assess the role and importance of JCAHO and external accrediting bodies in the evaluation of departmental/institutional excellence.
- Outline key steps in preparing for hospital and departmental accreditation including self-study and site visit. Identify the steps needed to prepare for a site visit in healthcare.
- Analyze theories and mechanisms used for workplace performance improvement such as TQM, Six Sigma, PDCA and Lean, and evaluate their applicability to hospitals, clinics, and healthcare.
- Develop a quality management program and a plan for its implementation in an area of the student's specialty.

HCML 440 New Business Planning in Healthcare • 5 Cr.

Covers planning and developing a new business venture within the healthcare industry. Includes plan development, pro-forma budget, estimates of market audience and planning, sources of financing, tracking response and success. Case studies are used to bring a contextual focus on specific departments and organizations in the healthcare industry. Prerequisite: Prerequisite: RAIM 401 and acceptance to the program, or permission of instructor.

Learning Outcomes

- Analyze the essential elements of a business plan and define associated terminology
- Develop statement of purpose for new or other business scenarios for healthcare organizations
- Evaluate the detailed market research needed to support the business plan and outline market research process
- Develop business options and scenarios and compare each for strengths and weaknesses in the context of healthcare organizations
- Outline operating procedures and resources, implementation, transition plans needed to support the new or other business scenarios in the healthcare industry
- Evaluate risk to the existing operations associated with starting the new or other business scenarios in the healthcare industry
- Develop detailed financial information, including loan, capital equipment and supply list, balance sheet, breakeven analysis, pro-forma income projections for healthcare organizations
- Develop detailed documentation of assumptions upon which projections were based
- Analyze sources of financing and develop recommendations
- Develop presentation and supporting material to present new or other business scenario concept to various stakeholders and potential investors
- Assess legal, ethical and conflict-of-interest issues that may relate to the launching of the new or other business scenario in the healthcare industry
- Debate key elements in the selection of the management team for healthcare organizations
- Develop communication plan and instruments to inform organization and relevant community

HCML 460 Management & Leadership in Healthcare • 5 Cr.

Prepares for leadership roles in healthcare. Topics include relations with diverse and/or remotely located staff, global and virtual employees, communication skills for managers, time management, motivating employees, and conflict resolution. Case studies are used to bring a contextual focus on specific departments and organizations in a global healthcare industry. Prerequisite: Acceptance to the program or permission of instructor.

Learning Outcomes

- Analyze the trends in diverse team and organization management in the healthcare industry

- Debate the issues and management strategies that relate to virtual teams and remotely located employees in the context of healthcare departments
- Evaluate diverse communication styles and how they impact the team and organization performance and morale
- Identify and develop strategies to assess inter-personal and team skills, cultural competency
- Examine the qualities and skills of effective project and department managers in healthcare organizations and a diverse client base
- Present and compare diverse leadership and motivation theories and practices, and analyze their respective effectiveness in the context of healthcare organizations and a diverse client base
- Develop effective, diverse management strategies that promote communication, minimize stress, and increase productivity, and analyze their effectiveness in the context of healthcare organizations and a diverse client base
- Examine and practice decision-making processes and techniques that facilitate effective and efficient change management for a diverse client base
- Assess the impact of globalization and diversity on management and leadership strategies and practices in healthcare organizations
- Develop plan and scenarios to prepare and lead effective training sessions including cultural competency for healthcare employees
- Evaluate strategies and tools to support effective time management
- Analyze strategies to reward and motivate diverse employees
- Discuss and exercise strategies to identify conflict and support effective conflict resolution
- Examine organizational leadership in managing continuous change in the context of healthcare organizations and a diverse client base

HCML 475 Capstone Project • 5 Cr.

Students review, integrate and practice the skills and knowledge covered throughout the Radiation and Imaging program. Students select a complete and significant project drawn from case studies involving both management and technology components. Prerequisite: Acceptance to the program or permission of instructor.

Learning Outcomes

- Integrate skills and knowledge acquired from different courses and experiences
- Develop and implement a project plan following appropriate methods and tools
- Present information in an effective format and debate issues with audience using a constructive approach
- Research information using a range of resources, including literature and periodicals, expert interviews, and existing case studies
- Assess validity and relevance of information, and analyze in the context of project goals and outcomes
- Evaluate, develop and apply effective methods to manage project milestones and timelines
- Develop an effective report and presentation commensurate with the scope and complexity of the project
- Identify and recruit subject matter experts who will add valuable contribution to the project, and interact with the experts in a professional and efficient manner
- Examine the relationships between management, operational and technical issues in healthcare organizations
- Demonstrate an in-depth and integrated understanding of the complexity of the issues and processes that apply to healthcare organizations through the quality of the project process, findings and presentation

HCML 494/5/6/7 Healthcare Management and Leadership Special Topics • V1-5 Cr.

Presents advanced or specialized topics in healthcare management. Topics focus on new and emerging trends. Examples include Lean Thinking, leadership, economics, etc. Specific topics are announced in the quarterly schedule. Prerequisite: Permission of instructor.

Learning Outcomes

After completing this class, students should be able to:

- Special topics course. Outcomes will vary.

RAIM 301 Essentials of Imaging & Therapy • 5 Cr.

Covers different modalities within the radiology and radiation therapy fields including terminology, equipment, procedures, safety issues, staffing and economics. Emphasis is on understanding the modality from an administrative standpoint. Students complete five modules in modalities in which they are not certified. Prerequisite: Acceptance to the program or permission of instructor.

Learning Outcomes

- Describe in layman's terms the equipment used to create images and/or treat patients in the modality, and employ terminology used within the modality.
- Analyze staffing considerations as they relate to workload, job satisfaction and performance, and patient care.
- Examine patient and health care worker safety issues, including not only the imaging/therapy professional but also ancillary workers.
- Assess costs and sources of revenue and discuss factors that positively and negatively impact them.
- Interpret regulatory and accreditation issues and discuss how these impact all of the above topics

RAIT 301 Sectional Anatomy • 3 Cr.

Presents normal human anatomy in various planes using Computed Tomography (CT), Magnetic Resonance (MR), interventional, and cardiac catheter images. Either RAIT 301 or IMAGE 250 can be taken for credit, not both. Prerequisite: BIOL&241 and BIOL&242 and permission of instructor, or enrollment in the program.

Learning Outcomes

- Identify normal anatomy of structures listed in the content using images from various special imaging modalities.
- Predict the relative location of structures surrounding those presented in images.
- Explain the physiology and circulatory patterns of major organs and structures
- Differentiate between normal and abnormal anatomy taking into account anatomic variances, and discussing supporting evidence.
- Compare and contrast CT (Computed Tomography) and MR (Magnetic Resonance) images, including a discussion of their respective roles and effectiveness in diagnostic accuracy for specific cases.
- Analyze and apply the selection process of imaging technology and protocol based on specific cases
 - Debate the level of uncertainties associated with interpreting anatomical images and present strategies on how to handle these uncertainties

RAIT 302 Body Pathophysiology • 3 Cr.

Presents pathologies of the abdomen, chest, and neck with physiological implications pertinent to Computed Tomography, Magnetic Resonance, interventional, and Cardiac Catheter imaging modalities. Either RAIT 302 or IMAGE 265 can be taken for credit, not both. Prerequisite: BIOL&241 and BIOL&242 and permission of instructor, or enrollment in the program.

Learning Outcomes:

- Identify normal physiology of pertinent systems/organs, including a discussion of anatomic variances.
- Identify and analyze pertinent pathologies with physiological implications, including supporting evidence.
- Describe symptoms of identified pathologies and predict their possible implications on systems presenting symptoms and future complications.
- Analyze imaging modalities of choice for pathologies, and examine strategies for selection of a specific imaging technology and protocol.
- Examine possible interventions performed in an imaging department for identified pathologies, and discuss the respective intended outcomes and possible complications.
- Assess the role of imaging modalities in diagnostic evaluations and interventions for specific pathologies.
- Debate the advantages and limitations of imaging modalities used singly or in combination as they apply to specific pathologies and different body systems
- Examine strategies to select appropriate imaging modalities and protocols based on the specific pathology and body system
- Develop imaging protocol recommendations for specific case studies

RAIT 303 Neuropathophysiology • 3 Cr.

Presents neurological based pathologies and the related diagnostic/interventional procedures applied in evaluation and treatment. Either RAIT 303 or IMAGE 266 can be taken for credit, not both. Prerequisite: BIOL&241 and BIOL&242 and permission of instructor, or enrollment in the program.

Learning Outcomes:

- Identify normal physiology of the central nervous system and peripheral nervous system and relate normal to abnormal processes of each.
- Analyze the physiology of the most common primary tumors of the head and spine including reasons for the primary location and metastatic possibilities.
- Describe the physiology of related structures such as pituitary, orbits, and internal auditory canal—common pathologies and their presenting symptoms.
- Predict presenting symptoms of head and spine trauma and relate them to diagnostic imaging findings.
- Examine the most common pathologies of the neurological system, describing associated symptoms and possible imaging strategies
- Describe lesions of the central nervous system including symptoms and diagnostic evaluations.
- Evaluate possible interventions performed in an imaging department as they relate to the neurological system.
- Debate the advantages and limitations of imaging modalities used singly or in combination as they apply to specific pathologies of the neurological system
- Examine strategies to select appropriate diagnostic and intervention procedures based on the specific pathology

RAIT 310 Computed Tomography Instrumentation & Procedures • 3 Cr.

Designed to provide didactic preparation for advanced level certification exam in Computed Tomography scanning. Includes information pertaining to the equipment used, clinical application, specific technique applications, patient care and quality control. Either RAIT 310 or IMAGE 280 can be taken for credit, not both. Prerequisites: RAIT 301 Sectional Anatomy, or permission of instructor.

Learning Outcomes:

- Present the evolution of CT (Computed Tomography) scanning while using appropriate terminology.
- Present in detail the operation of the CT (Computed Tomography) scanner.
- Examine the approved application of CT (Computed Tomography) scanning to pertinent pathologies.
- Present in detail the manner in which CT (Computed Tomography) acquires data and constructs the image.
- Analyze the advantages of image manipulation and the considerations to maintaining image quality.
- Discuss the indications, patient preparation, contrast settings and common pathologies as they apply to CT (Computed Tomography) scanning of head, neck, spine and specific body parts
- Examine common protocols used in neuro and body imaging.
- Analyze the elements that relate to quality control in CT (Computed Tomography) scanning procedures
- Evaluate current research involving CT (Computed Tomography) exams and procedures for the future.
- Develop CT (Computed Tomography) scanning protocol recommendations for specific case studies

RAIT 311 Clinical Practicum in Computed Tomography • 12 Cr.

Provides the opportunity to develop required competencies for advance certification in Computed Tomography technology. Includes 40 hours per week for 11 weeks in a CT department. Either RAIT 311 or IMAGE 270 can be taken for credit, not both. Prerequisites: RAIT 310 within the past 36 months with a grade of 2.7 (B-) or better and permission of instructor.

Learning Outcomes:

- Prepare supplies according to procedures
- Monitor equipment following procedures and protocols.
- Evaluate and interpret requisitions, and develop appropriate protocol to respond to physician's order.
- Prepare the patient for procedure, both physically and mentally.
- Administer medications as directed.
- Perform patient assessment and monitoring before, during and after the procedure.
- Examine the elements of and accomplish follow-up patient care.
- Process and evaluate images, and develop recommendations for procedure adjustment based on image quality.
- Identify anatomy based on image interpretation.
- Set radiographic technique based on specific conditions.
- Identify and label images created according to accepted practices.
- Analyze ethical issues relating to radiographic procedures and demonstrate ethical behavior and attitude in the clinical setting.
- Demonstrate effective communication skills with patients and co-workers.
- Assess the indications and contradictions for given CT (Computed Tomography) procedures based on specific case studies
- Documentation of clinical experience in computed tomography procedures in seven categories:
 - Head and Neck
 - Spine and Musculoskeletal
 - Chest

- Abdomen and Pelvis
- Special Procedures
- Image Display and Post Processing
- Quality Assurance
- Specific exams are identified in the Computed Tomography Technology Certification Handbook of the American Registry of Radiologic Technologists.

RAIT 312 Biology of Cancer • 5 Cr.

Emphasis is on the cellular, genetic, biochemical and environmental aspects of the disease including discussion of the multiple disease nature of cancer, its diagnosis and treatment. Same as BIOL 312. Either BIOL 312 or RAIT 312 may be taken for credit, not both. Prerequisite: Acceptance into the BAS in Radiation and Imaging Sciences or permission of instructor. Recommended: BIOL& 160 or BIOL& 211.

Learning Outcomes:

- Describe the basic biology and genetics of cells
- Outline an overview of cancer [historical, epidemiological, chronic nature of the disease]
- Explain the cell cycle and its controls
- Describe DNA and its replication
- Identify cellular changes that occur in cancer
- Describe genetic changes that occur in cancer
- Discuss occupational, environmental and viral causes of cancer
- Analyze the general process of angiogenesis and metastasis
- List types of cancer
- Discuss diagnosis and treatments of cancer
- Describe the role of nutrition in cancer
- Describe the societal [social, economic and ethical] impact of the fight against cancer

RAIT 315 Magnetic Resonance Instrumentation & Procedures • 3 Cr.

Presents the physics of magnetization, image production, image weighting, pulse responses, scanning procedures, magnet safety, and the role of the technologist. Either RAIT 315 or IMAGE 281 can be taken for credit, not both. Prerequisite: RAIT 301, or permission of instructor.

Learning Outcomes:

- Define and apply MR (Magnetic Resonance) related terminology.
- Analyze patient and health care worker concerns with regard to magnet safety, and discuss strategies to minimize risks.
- Identify MR (Magnetic Resonance) related hardware components and describe their function in the production of an MR (Magnetic Resonance) image
- Define terms referring to MR (Magnetic Resonance) signal production, describe relationships amongst factors, and the technologist role in each factor
- Define and appropriately apply terms related to image weighting, and examine the process of image weighting and its role in image quality
- Analyze pulse sequences commonly used and their role in the MR (Magnetic Resonance) process, and describe the circumstances where they are optionally applied.
- Examine artifacts produced, their impact on image quality and processes followed to identify their source.
- Examine considerations, contrast agents and protocols for specific MR (Magnetic Resonance) application

- Debate specialized applications of MR (Magnetic Resonance) and current research in future applications
- Develop MR (Magnetic Resonance) protocol recommendations for specific case studies

RAIT 316 Clinical Practicum in Magnetic Resonance Imaging • 12 Cr.

Provides the opportunity to develop required competencies for advance certification in Magnetic Resonance Imaging. Includes 40 hours per week for 11 weeks in an MRI department. Either RAIT 316 or IMAGE 271 can be taken for credit, not both. Prerequisite: RAIT 315 within the past 36 months with a grade of 2.7 (B-) or better and Procedures, and permission of instructor.

Learning Outcomes:

- At the completion of the course, the student will have proven competence in a minimum of 50% of the required procedures. Competence in a required procedure includes evaluation of a student's ability to:
 - Prepare supplies according to procedures
 - Monitor equipment following procedure and protocols.
 - Evaluate and interpret requisitions, and develop appropriate protocol to respond to physician's order.
 - Prepare the patient for procedure, both physically and mentally.
 - Administer medications as directed
 - Perform patient assessment and monitoring before, during and after the procedure
 - Examine the elements of and accomplish follow-up patient care.
 - Process and evaluate images, and develop recommendations for procedure adjustment based on image quality
 - Identify anatomy based on image interpretation
 - Set radiographic technique based on specific conditions
 - Identify and label images created according to accepted practices
 - Analyze ethical issues relating to radiographic procedures and demonstrate ethical behavior and attitude in the clinical setting
 - Demonstrate effective communication skills with patients and co-workers
 - Assess the indications and contradictions for given MRI (Magnetic Resonance Imaging) procedures based on specific case studies

RAIT 320 Intervention Procedures • 3 Cr.

Provides a survey of special diagnostic and interventional procedures. The technologist role and responsibilities in these procedures is discussed relative to equipment and supplies used, drugs administered, and assessing and monitoring of the patient. Either RAIT 320 or IMAGE 283 can be taken for credit, not both. Prerequisites: RAIT 301 Sectional Anatomy, or permission of instructor.

Learning Outcomes:

- Describe the elements and function of the interventional suite and examine the role and responsibility of the technologist as it relates to the suite.
- Identify equipment components used in diagnostic and interventional procedures, and examine the function for each component.
- Analyze commonly used protocols for procedures including both diagnostic and interventional approaches.
- Describe patient monitoring equipment and identify and interpret normal readings for patients undergoing procedures.

- Examine the technologist's role in the care of critical patients.
- Discuss pertinent drugs used and analyze post exam patient care procedures.
- Analyze indications and contraindications for procedures commonly performed.
- Assess commonly diagnosed pathologies and identify those pathologies where intervention is recommended.
- Develop diagnostic and interventional procedure recommendations for specific case studies

RAIT 321 Vascular Interventional Clinical • 12 Cr.

Provides the opportunity to develop required competencies for advanced certification in Interventional Vascular Technology. The course includes 40 hours per week for 11 weeks in and IR department. Either RAIT 321 or IMAGE 272 can be taken for credit, not both. Prerequisite: RAIT 320 within the past 36 months with a grade of 2.7 (B-) or better and permission of instructor.

Learning Outcomes:

- At the completion of the course, the student will have proven competence in a minimum of 50% of the required procedures. Competence in a required procedure includes evaluation of a student's ability to:
 - Prepare supplies according to procedures
 - Monitor equipment following procedures and protocols.
 - Evaluate and interpret requisitions, and develop appropriate protocol to respond to physician's order.
 - Prepare the patient for procedure, both physically and mentally.
 - Administer medications as directed
 - Perform patient assessment and monitoring before, during and after the procedure
 - Examine the elements of and accomplish follow-up patient care.
 - Process and evaluate images, and develop recommendations for procedure adjustment based on image quality
 - Identify anatomy based on image interpretation
 - Set radiographic technique based on specific conditions
 - Identify and label images created according to accepted practices
 - Analyze ethical issues relating to radiographic procedures and demonstrate ethical behavior and attitude in the clinical setting
 - Demonstrate effective communication skills with patients and co-workers
 - Assess the indications and contradictions for given vascular-interventional procedures based on specific case studies

RAIT 325 Mammography • 5 Cr.

Preparation for certification by the ARRT in mammography. In addition to didactic education, the course includes laboratory sessions in a Mammography department. Prerequisite: Acceptance to the program or permission of instructor.

Learning Outcomes:

- Describe the pertinent components of mammography equipment and their respective role in imaging
- Examine the changes in the quantity and quality of radiation produced with manipulation of technical factors
- Evaluate image quality relative to the technical factors used, the anatomy of the breast, and pathologic conditions
- Evaluate required quality control procedures, and interpret the results of those tests

- Relate the quality control findings to image quality
- Identify normal anatomy and physiology of the breast and describe the effects of pathology on the images
- Describe the role of the technologist in patient education

RAIT 326 Ultrasound Physics for Mammographers • 3 Cr.

Covers acoustical physics, including the concepts and principles of sound transmission and the utilization of high frequency sound to produce images for diagnostic purposes. Prerequisite: Acceptance to the program or permission of the instructor.

Learning Outcomes:

- Identify, contrast, and compare the various types of mechanical waves and the sound spectrum
- Calculate frequency, wavelength, intensity, and identify relative sizes of objects
- Anticipate and evaluate reflection characteristics based on acoustic impedance calculations
- Discuss and note the differences between specular, diffuse, and Rayleigh scatterers
- Calculate levels of attenuation in tissue
- Describe and discuss the operational characteristics of an ultrasound transducer
- Describe, discuss, contrast, and compare the concepts of an array of elements and beam formation
- Apply the concepts of resolution and focusing to obtain the optimum image; evaluate the image for quality
- Calculate the range in a pulse-echo event
- Describe, discuss, contrast, compare, and identify the Doppler effect in a spectral display
- Identify and evaluate image artifacts and explain them using reasonable physical principles
- Develop an appreciation for the importance of physics in understanding and using ultrasound techniques

RAIT 327 Breast Ultrasound for Mammographers • 3 Cr.

Reviews anatomy and physiology of the breast. Includes orientation to sectional imaging of the breast, correlation with mammographic images, and characterization of normal and abnormal findings from a sonographic viewpoint. Prerequisite: Acceptance to the program or permission of instructor.

Learning Outcomes:

- Summarize the embryonic development of the breast
- Describe the changes in a woman's breast due to age, parity, hormone replacement, and the normal physiologic cycle.
- Contrast the differences in the sonographic appearance of malignant and benign masses in both the male and female breast.
- Identify image artifacts that aid and hinder diagnosis of the breast mass.
- Assess impact of surgical alteration on design of procedure and diagnostic accuracy
- Demonstrate (in hands-on lab) techniques for breast biopsy to include: localizing the needle, scan technique, sterile procedure, and physician coaching.
- Discuss how the different imaging modalities complement each other in diagnosis of breast disease.
- Develop imaging procedures based on specific conditions

RAIT 328 Ultrasound Equipment for Mammographers • 2 Cr.

Introduces the ultrasound system. Includes detailed descriptions of essential parts of the ultrasound system using a variety of ultrasound machines, classroom demonstrations of system operations and

technique, and practical application to breast anatomy and pathology. Prerequisite: Acceptance to the program or permission of instructor.

Learning Outcomes:

- Identify and select different types/frequencies of transducers appropriate to the patient/exam situation, and provide justification to support the selection process
- Set up the ultrasound machine appropriately
- Prepare patient appropriately in accordance with established standards and procedures
- Obtain all required and relevant information regarding the patient using effective and supportive communication skills
- Analyze the key elements of and follow accepted protocol for completing a breast ultrasound exam
- Utilize appropriate ultrasound system hardware and software for optimal imaging of the breast in accordance with established procedures
- Develop documentation of all images obtained following documentation standards
- Correlate ultrasound information obtained with other relevant information concerning the patient, and develop draft observation findings
- Analyze information obtained in order to arrive at a reasonable conclusion, and present supporting analysis and justification
- Conduct themselves in a manner that allows for safety of staff and patients in the ultrasound lab following laboratory and equipment safety procedures
- Evaluate actions and attitudes that affect safety and quality within the ultrasound lab environment
- Demonstrate attitudes and performance that effectively supports quality control in the ultrasound lab environment

RAIT 329 Mammography Clinical Practicum • 5 Cr.

Students are assigned to a mammography department for 132 hours to satisfy clinical competency requirements of the ARRT for eligibility to sit for the ARRT advanced level exam in mammography. Prerequisites: RAIT 325 Mammography and permission of instructor.

Learning Outcomes:

- Educate the patient about the procedure and equipment
- Solicit and record pertinent clinical history
- Select appropriate equipment to perform the exam
- Select and record exposure factors based on the patients history and condition
- Position the patient to produce optimum images
- Evaluate the images and make adjustments to accommodate a patient's condition or special needs
- Perform, evaluate, and record all required QC tests
- Trouble shoot artifacts and abnormal findings of the QC tests
- Participate in Interventional/Special exams - a minimum of 4
- Review 20 patient exams accomplished by the student with a radiologist regarding technique, anatomy, and pathology

RAIT 330 Breast Ultrasound for Sonographers • 3 Cr.

Designed for ARDMS certified sonographers who want to gain didactic preparation level certification in breast ultrasound. Content covers all areas included in the breast specialty exam offered by the ARDMS. Prerequisite: Acceptance to the program or permission of instructor.

Learning Outcomes:

- Identify appropriate instrumentation and ancillary equipment

- Correlate mammographic findings into scanning protocol
- Identify normal breast anatomy
- Distinguish between anatomy and artifact
- Identify an image and describe benign features versus malignant
- Identify an image and describe specific benign lesions.
- Identify an image and describe specific malignant lesions.
- Differentiate sonographic image appearance from other diagnostic images
- Describe procedural technique and instrumentation for ultrasound guided invasive procedures

RAIT 331 Clinical Practicum in Breast Ultrasound • 12 Cr.

Provides the opportunity for ARDMS certified sonographers to develop competencies in breast ultrasound, including the required numbers and variety of exams for advanced level certification. Content covers all areas included in the breast specialty exam offered by the ARDMS. Course includes 40 hours per week for 11 weeks in the clinical setting. Prerequisite: Acceptance to the program or permission of instructor.

Learning Outcomes:

- Demonstrate appropriate interaction with patients, physicians and staff.
- Identify the pertinent clinical questions and the goal of the examination.
- Recognize significant clinical information and historical facts from the patient and the medical records, which may impact the diagnostic examination.
- Review data from current and previous examinations to produce a written/oral summary of technical findings, including relevant interval changes, for the interpreting physician's reference.
- Select the correct transducer type and frequency for examination(s) being performed.
- Adjust instrument controls including examination presets, scale size, focal zone(s), overall gain, time gain compensation, and frame rate to optimize image quality.
- Demonstrate knowledge and understanding of anatomy, physiology, pathology and pathophysiology relevant to specialty being assessed.
- Demonstrate the ability to perform sonographic examinations of the appropriate organs and areas of interest according to professional and employing institution protocols.
- Recognize, identify and document the abnormal sonographic patterns of disease processes, pathology, and pathophysiology of the organs and areas of interest. Modify the scanning protocol based on the sonographic findings and the differential diagnosis.
- Perform related measurements from sonographic images or data.
- Utilize appropriate examination recording devices to obtain pertinent documentation of examination findings.

RAIT 340 Fetal Echocardiography for Sonographers • 3 Cr.

Designed to provide didactic preparation for ARDMS certified sonographers for advanced level certification in fetal echocardiography. Content covers all areas included in the specialty exam offered by the ARDMS. Prerequisite: Acceptance to the program or permission of instructor.

Learning Outcomes:

- Identify the incidence of congenital heart disease, indications for the exam, and embryology of the fetal heart.
- Identify standard views, describe anatomy visualized, and label it on image
- Explain normal fetal heart physiology and identify sonographic procedures to evaluate it.

- Describe structural heart anomalies, identify them on image, and describe techniques used to create the image.
- Identify functional imaging procedures for the fetal heart and describe alternative protocols for accomplishing the exam.
- Identify acquired pathologies and describe their appearance on image.

RAIT 341 Clinical Practicum for Fetal Echocardiography • 12 Cr.

Provides the opportunity for ARDMS certified sonographers to develop competencies in fetal echocardiography, including the required numbers and variety of exams for advanced level certification. Content covers all areas included in the specialty exam offered by the ARDMS. The course includes 40 hours per week for 11 weeks in the clinical setting. Prerequisite: Acceptance to the program or permission of instructor.

Learning Outcomes:

- Demonstrate appropriate interaction with patients, physicians and staff.
- Identify pertinent clinical questions and the goal of the examination.
- Recognize significant clinical information and historical facts from the patient and the medical records, which may impact the diagnostic examination.
- Review data from current and previous examinations to produce a written/oral summary of technical findings, including relevant interval changes, for the interpreting physician's reference.
- Select the correct transducer type and frequency for examination(s) being performed.
- Adjust instrument controls including examination presets, scale size, focal zone(s), overall gain, time gain compensation, and frame rate to optimize image quality.
- Demonstrate knowledge and understanding of anatomy, physiology, pathology and pathophysiology relevant to specialty being assessed.
- Demonstrate the ability to perform sonographic examinations of the appropriate organs and areas of interest according to professional and employing institution protocols.
- Recognize, identify and document the abnormal sonographic patterns of disease processes, pathology, and pathophysiology of the organs and areas of interest. Modify the scanning protocol based on the sonographic findings and the differential diagnosis.
- Perform related measurements from sonographic images or data.
- Utilize appropriate examination recording devices to obtain pertinent documentation of examination findings.

RAIT 344 Sonographer Vascular Technology • 3 Cr.

Designed to provide didactic preparation for ARDMS certified sonographer for advanced level certification in vascular technology. Content covers all areas included in the specialty exam offered by the ARDMS. Prerequisite: Acceptance to the program or permission of instructor.

Learning Outcomes:

- Describe and identify on images pertinent cerebrovascular, venous, peripheral arterial, and abdominal/visceral anatomy, physiology, and hemodynamics
- Identify and explain the mechanisms of disease
- Describe patient signs and symptoms for vascular pathologies
- Identify proper sonographic testing for vascular studies to include equipment used, patient positioning, technique, interpretation, and limitations
- Describe vascular radiographic MR and CT diagnostic procedures and identify their interpretations and limitations

- Identify possible patient treatments for pathologies
- Describe appropriate patient follow-up for sonographic procedures
- Explain possible sonographic applications for alternate condition and/or tests
- Apply imaging principles and vascular physics to image quality
- Apply statistical analysis for quality assurance testing of equipment and patient safety

RAIT 345 Clinical Practicum for Vascular Sonography • 12 Cr.

Provides the opportunity for ARDMS certified sonographers to develop competencies in vascular sonography, including the required numbers and variety of exams for advanced level certification. Content covers all areas included in the specialty exam offered by the ARDMS. The course includes 40 hours per week for 11 weeks in the clinical setting. Prerequisite: Acceptance to the program or permission of instructor.

Learning Outcomes:

- Demonstrate appropriate interaction with the patients, physicians and staff
- Identify the pertinent clinical questions and the goal of the examination
- Recognize significant clinical information and historical facts from the patient and the medical records, which may impact the diagnostic examination.
- Review data from current and previous examinations to produce a written/oral summary of technical findings, including relevant interval changes, for the interpreting physician's reference.
- Select the correct transducer type and frequency for examination(s) being performed.
- Adjust instrument controls including examination presets, scale size, focal zones(s), overall gain, time gain compensation, and frame rate to optimize image quality.
- Demonstrate knowledge and understanding of Doppler ultrasound principles, spectral analysis, and color flow imaging relevant to specialty being assessed.
- Demonstrate knowledge and understanding of anatomy, physiology, pathology and pathophysiology relevant to specialty being assessed.
- Demonstrate the ability to perform sonographic examinations of the appropriate organs and areas of interest according to professional and employing institution protocols.
- Recognize, identify and document the abnormal sonographic patterns of disease processes, pathology, and pathophysiology of the organs and areas of interest. Modify the scanning protocol based on the sonographic findings and the differential diagnosis.
- Perform related measurements from sonographic images or data.
- Utilize appropriate examination recording devices to obtain pertinent documentation of examination findings.

RAIT 350 Nuclear Cardiology • 5 Cr.

Covers all aspects of nuclear cardiology, including anatomy, physiology, pathology, electrocardiography, acquisition and processing of nuclear cardiology studies, stress testing (both exercise and pharmacologic), emergency care in the nuclear cardiology department, and correlative imaging. The course is designed to prepare students for the Nuclear Cardiology (NCT) examination. Prerequisite: Acceptance to the program.

Learning Outcomes:

- Discuss cardiac and myocardial anatomy and physiology in detail.
- Analyze pathologies affecting the heart and their appearance on nuclear cardiology studies of all types.
- Analyze electrocardiography tracings and identify abnormalities and artifacts.

- Discuss the radiopharmaceuticals and acquisition and processing protocols for: myocardial perfusion imaging, viability studies, equilibrium radionuclide angiography, cardiac shunt studies, and cardiac PET studies.
- Analyze nuclear cardiology studies of all types for artifacts and appropriate patient/study/equipment quality.
- Evaluate the appropriateness of treadmill, bicycle, and pharmacologic stress testing methods in clinical situations, including expected physiologic effects and end points, appropriate uses, contraindications, and mechanisms of action of pharmacologic agents.
- Discuss the effect of various cardiac drugs on cardiac function, and evaluate their use in specific situations.
- Assess scenarios involving possible medical emergencies in the nuclear cardiology department, and discuss appropriate interventions, both physical (e.g., CPR) and pharmacologic (e.g., emergency medication administration).
- Explain the diagnostic and prognostic benefits of nuclear cardiology procedures, as well as the risks involved, at both the level of a medical professional and at the level of a patient.
- Analyze the appropriateness of various non-nuclear diagnostic cardiology procedures in relation to nuclear cardiology procedures.

RAIT 358 Principles of Nuclear Medicine Physics • 3 Cr.

Covers the basic principles and practices of nuclear medicine, with emphasis on concepts of physiologic imaging, radioactivity, radiation detection, and radiation safety. Designed for individuals with prior certification in radiography or radiation therapy who wish to become certified in positron emission tomography (PET). Should be taken before beginning clinical experience in PET. Prerequisite: Permission of Nuclear Medicine Program Chair.

Learning Outcomes:

- Compare and contrast nuclear medicine and physiologic imaging to the practice of radiologic technology.
- State why some nuclides are radioactive, discuss radioactive decay modes and interactions of various radiation emissions, and utilize equations related to the decay of radioactivity.
- Outline the mechanisms and use of radiation detection instruments, including the dose calibrator, ionization survey meter, Geiger counter, scintillation detector, and (briefly) the gamma camera (including SPECT).
- Briefly discuss the concepts of radiopharmaceutical dosimetry.
- Discuss radiation safety practices in nuclear medicine, and utilize calculations using the attenuation equation. State the components of a radioactive materials license and rules that apply to handling radioactive materials.
- State the rules for radiopharmaceutical administration, perform dosage calculations, and discuss the issue of misadministration.

RAIT 359 Basics of Positron Emission Tomography • 3 Cr.

Covers the basic science of positron emission tomography (PET) imaging, including the principles of coincidence imaging, the operation of a PET tomograph, and the creation and use of PET radiopharmaceuticals. Intended for individuals interested in pursuing clinical experience in PET. Prerequisite: RAIT 358 or certification as a nuclear medicine technologist.

Learning Outcomes:

- Outline the basic concepts of positron emission tomography (PET), including coincidence imaging, types of events, need for attenuation correction, and time-of-flight.
- Identify the components of a PET tomograph and discuss its operation, including detector block and ring gantry design, corrections needed, reconstruction methods, quality control procedures, image acquisition, and artifacts.
- Describe the production of PET radionuclides in a cyclotron and in a generator and the manufacture of PET radiopharmaceuticals.
- Identify and discuss imaging procedures for commonly used PET radiopharmaceuticals, and briefly discuss the use of PET radiopharmaceuticals for research.
- Discuss in depth the physiology of fluorodeoxyglucose (FDG), including the need for careful patient preparation and normal variants; and identify and briefly discuss PET radiopharmaceuticals other than FDG.
- Briefly discuss 2D vs. 3D and time-of-flight imaging, dynamic image sequences, and gated imaging techniques.
- Describe performance measures used for PET tomographs and common artifacts in PET imaging.
- Discuss quantitative and semi-quantitative techniques in PET, particularly the standardized uptake value.
- Describe the benefits, acquisition techniques, and issues related to PET/CT, and briefly discuss PET/MR imaging.

RAIT 360 Advanced Positron Emission Tomography • 3 Cr.

Covers advanced topics in positron emission tomography (PET), emphasizing imaging studies in the areas of neurology, cardiology, and oncology. Also reviews PET tomograph operation and PET department operation. Both RAIT 359 and RAIT 360 are recommended as preparation for the PET board exam; RAIT 360 should not be taken until after PET clinical experience.

Learning Outcomes:

- Outline daily and infrequent quality control testing for PET scanners, and analyze resulting data with regard to scanner functionality.
- Provide a basic explanation of CT, including the use of contrast media; discuss radiation dose and dose reduction techniques.
- Discuss the standardized uptake value and its application to a variety of clinical situations.
- Apply aspects of nuclear medicine physics and radiation safety to PET department operation, including measuring instruments and calculations.
- Describe acquisition, processing and display of a variety of PET studies.
- Identify sources of image artifacts.
- Discuss clinical uses, results, and patient preparation for clinical PET imaging procedures, including those of the brain, heart, bone, and whole body.
- Analyze PET case studies.
- Delineate protocols for the use of interventional pharmaceuticals in PET studies.
- Describe appropriate responses to emergency situations that can arise in the context of PET imaging.
- Explain the advantages and issues brought about by combining PET and CT.
- Discuss Medicare reimbursement issues as they pertain to PET studies, including the National Oncologic PET Registry.

RAIT 361 Clinical Practicum Positron Emission Tomography • 12 Cr.

Provides the opportunity to develop required competencies for certification in Positron Emission Tomography. Course includes approximately 396 hours in one or more PET departments and clinics.

Students work with combined PET/CT scanners. Course does not address clinical training in computed tomography. Prerequisite: Acceptance to the program or permission of instructor.

Learning Outcomes:

- Evaluate appropriate equipment function using daily quality control results.
- Evaluate and interpret requisitions, and develop appropriate protocol to respond to physician's order.
- Verify that correct information is present to allow for insurance reimbursement.
- Prepare the patient for procedure, including verification of patient history and other details, blood glucose testing, and answering patient questions.
- Administer the PET radiopharmaceutical and other medications as directed, using appropriate radiation safety precautions.
- Monitor patient before, during and after the procedure, depending on the protocol and medications administered.
- Process and evaluate images and identify anatomy based on image interpretation; label and display according to accepted practices.
- Perform image fusion and determine standardized uptake values as necessary.
- Analyze ethical issues relating to nuclear medicine procedures and demonstrate ethical behavior and attitude in the clinical setting.
- Demonstrate empathy towards all kinds of patients encountered in the PET suite.
- Demonstrate effective communication skills with patients and co-workers
- Assess the indications and contradictions for given PET and PET/CT procedures based on specific case studies.

RAIT 401 Advanced Sectional Anatomy • 2 Cr.

Designed for students having completed a sectional anatomy course. Neuro and vascular anatomy, and sectional images of joint and extremity body areas presented with Computed tomography and Magnetic Resonance images. Either RAIT 401 or IMAGE 251 can be taken for credit, not both. Prerequisite: RAIT 301 or permission of instructor.

Learning Outcomes:

- Identify related anatomy on CT (Computed Tomography) and MR (Magnetic Resonance) images in all planes as they relate to neuro and vascular anatomy, and body joints and extremities
- Predict the relative location of structures surrounding the identified anatomy.
- Where appropriate, diagram anatomical structures.
- Differentiate between normal and abnormal anatomy taking into account anatomic variances, and discussing supporting evidence.
- Compare and contrast CT (Computed Tomography) and MR (Magnetic Resonance) images, including a discussion of their respective roles and effectiveness in diagnostic accuracy for specific cases.
- Analyze and apply the selection process of imaging technology and protocol based on specific cases
- Debate the level of uncertainties associated with interpreting anatomical images and present strategies on how to handle these uncertainties

RAIT 410 Advanced Computed Tomography Procedures • 3 Cr.

Presents state of the art Computed Tomography technology and procedures. Emphasis placed on protocols utilized to image pathologies and the potential applications of CT in evaluation of disease progression following treatment. Prerequisite: RAIT 310 or CT certification or permission of instructor.

Learning Outcomes:

- Compare and contrast single detector and multidetector technology, and discuss respective applications, advantages and limitations
- Evaluate critical measurements of renal function relative to risk-benefit of renal function contrast exams
- Analyze possible contrast reactions, equipment needed for treatment, and interventional procedures utilized
- Create protocols for exams of the thorax, abdomen, and extremities using a 3d workstation, and analyze supporting decisions
- Evaluate single detector protocols for neuro exams and create protocols for a multidetector 3 d workstation
- Examine pediatric exams that utilize multidetector 3 d work stations and evaluate patient safety concerns

RAIT 411 Clinical Practicum II in CT • V1-11 Cr.

Provides the opportunity to develop required competencies for advance certification in Computed Tomography Imaging. Includes 40 hours per week for 1 - 11 weeks in an MRI department. Prerequisite: RAIT 311 Clinical Practicum in Computed Tomography, and permission of instructor.

Learning Outcomes:

At the completion of the course, the student will have proven competence in a minimum of 50% of the required procedures. Competence in a required procedure includes evaluation of a student's ability to:

- Prepare supplies according to procedures
- Monitor equipment following procedures and protocols.
- Evaluate and interpret requisitions, and develop appropriate protocol to respond to physician's order
- Prepare the patient for procedure, both physically and mentally.
- Administer medications as directed
- Perform patient assessment and monitoring before, during and after the procedure
- Examine the elements of and accomplish follow-up patient care
- Process and evaluate images, and develop recommendations for procedure adjustment based on image quality
- Identify anatomy based on image interpretation
- Set radiographic technique based on specific conditions
- Identify and label images created according to accepted practices
- Analyze ethical issues relating to radiographic procedures and demonstrate ethical behavior and attitude in the clinical setting
- Demonstrate effective communication skills with patients and co-workers
- Assess the indications and contradictions for given CT (Computed Tomography) procedures based on specific case studies

RAIT 415 Advanced Magnetic Resonance Imaging Procedures • 3 Cr.

Designed for those currently employed as Magnetic Resonance technologists or those having completed a formal MR instrumentation course. Includes a brief review of MR physics, an in-depth analysis of fast imaging pulse sequences, advanced clinical application, advanced hardware, and a review of current research activity in continued application of Magnetic Resonance Imaging. Prerequisite: RAIT 315 or Magnetic Resonance certification or permission of instructor.

Learning Outcomes:

- Present and evaluate advances in techniques that allow for fast scanning, EPI (Echo-Planar Imaging) diffusion, and other functional imaging.
- Describe time of flight and phase contrast, and assess enhancing techniques used in angiography.
- Analyze considerations for patient set-up of breast imaging including implants, biopsy, cancer staging.
- Discuss the proper operation and applications of automatic injectors
- Assess specialized hardware components of leading edge MRI (Magnetic Resonance Imaging) systems
- Identify anatomy, list clinical indications, describe patient set-up (including lead placement and EKG -Electro Cardiogram- signal) and explain the reasons for sequences in cardiac imaging.
- Evaluate and discuss new clinical applications of MR (Magnetic Resonance).

RAIT 416 Clinical Practicum II in MRI • V1-11 Cr.

Provides the opportunity to develop required competencies for advance certification in Magnetic Resonance Imaging. Includes 40 hours per week for 1 - 11 weeks in an MRI department. Prerequisite: RAIT 316 Clinical Practicum in Magnetic Resonance Imaging, and permission of instructor.

Learning Outcomes:

Students will have proven competence in a minimum of 50% of the required procedures. Competence in a required procedure includes evaluation of a student's ability to meet the outcomes listed below.

- Prepare supplies according to procedures.
- Monitor equipment following procedure and protocols.
- Evaluate and interpret requisitions, and develop appropriate protocol to respond to physician's order.
- Prepare the patient for procedure, both physically and mentally.
- Administer medications as directed.
- Perform patient assessment and monitoring before, during and after the procedure.
- Examine the elements of and accomplish follow-up patient care.
- Process and evaluate images, and develop recommendations for procedure adjustment based on image quality.
- Identify anatomy based on image interpretation.
- Set radiographic technique based on specific conditions.
- Identify and label images created according to accepted practices.
- Analyze ethical issues relating to radiographic procedures and demonstrate ethical behavior and attitude in the clinical setting.
- Demonstrate effective communication skills with patients and co-workers.
- Assess the indications and contradictions for given MRI (Magnetic Resonance Imaging) procedures based on specific case studies

RAIT 421 Clinical Practicum II in Vascular Interventional • V1-11 Cr.

Provides the opportunity to develop required competencies for advanced certification in Interventional Vascular Technology. The course includes 40 hours per week for 1 - 11 weeks in an IR department. Prerequisite: RAIT 321 Interventional Procedures Clinical and permission of instructor.

Learning Outcomes:

Students will have proven competence in a minimum of 50% of the required procedures. Competence in a required procedure includes evaluation of a student's ability to meet the outcomes listed below.

- Prepare supplies according to procedures
- Monitor equipment following procedure and protocols.
- Evaluate and interpret requisitions, and develop appropriate protocol to respond to physician's order.
- Prepare the patient for procedure, both physically and mentally.
- Administer medications as directed
- Perform patient assessment and monitoring before, during and after the procedure
- Examine the elements of and accomplish follow-up patient care.
- Process and evaluate images, and develop recommendations for procedure adjustment based on image quality
- Identify anatomy based on image interpretation
- Set radiographic technique based on specific conditions
- Identify and label images created according to accepted practices
- Analyze ethical issues relating to radiographic procedures and demonstrate ethical behavior and attitude in the clinical setting
- Demonstrate effective communication skills with patients and co-workers
- Assess the indications and contradictions for given vascular-interventional procedures based on specific case studies

RAIT 430 Neurosonology • 3 Cr.

This course will allow the student to further explore the concepts of ultrasound of the brain and spinal cord of the neonate patient. Emphasis will be placed on normal and congenital neurological disease. Scanning protocols will be introduced as well as specific medical needs of the critically ill neonate and pediatric patient. Prerequisite: Acceptance into program or permission of program chair.

Learning Outcomes:

- Describe and explain neurophysiology as appropriate to the premature and neonate patient.
- Discuss and describe brain and spine pathology and pathophysiology as appropriate in the premature and neonate patient.
- Compare and contrast the indications, utility, limitations and technical procedures for the uncooperative pediatric patient, and the critically ill premature or neonate patient.
- Analyze the pediatric sonographic images.

RAIT 440 Pediatric Sonography • 5 Cr.

This course provides direct learning of the advanced concepts of sonographic imaging of the abdomen and pelvis of the pediatric patient. Scanning protocols will be included, as well as specific medical needs of the critically ill neonate and pediatric patient. Prerequisite: Acceptance into program or permission of program chair.

Learning Outcomes:

- Describe and explain physiology as appropriate to the premature neonate and pediatric patient.
- Discuss and describe abdominal pathology, pathophysiology, and hemodynamics in different types of disease as appropriate in the pediatric patient.
- Compare and contrast the indications, utility, limitations and technical procedures for pediatric studies such as interventional procedures, pediatric hip maneuvers, the uncooperative pediatric patient, and the critically ill pediatric patient.
- Analyze pediatric sonographic images.

RAIT 455 Nuclear Medicine Concept Integration • 2 Cr.

Brings together the different aspects of nuclear medicine and provides the student with an opportunity to integrate theory and practice. Using a series of scenarios, students prepare short papers and participate in discussions on how they would handle each situation. Prerequisite: Acceptance into the BAS Nuclear Medicine concentration.

Learning Outcomes:

- Starting from the scenario given, identify issues relevant to nuclear medicine practice and comment on how each might be dealt with.
- Synthesize information learned in a variety of settings into a comprehensive approach to the scenario presented.
- Discriminate between issues that are pertinent to a particular scenario and those that are peripheral to it.
- Actively participate in class discussions on each scenario, and where appropriate, justify and/or defend one's position.

RAIT 461 Clinical Practicum II in PET • 9 Cr.

Provides the student the opportunity to develop required competencies for certification in Positron Emission Tomography. The course includes approximately 300 hours in one or more PET departments and clinics. The student will work with combined PET/CT scanners, but this course will not address clinical training in computed tomography. Prerequisite: Permission of instructor. Recommended: RAIT 361.

Learning Outcomes:

- Evaluate appropriate equipment function using daily quality control results.
- Evaluate and interpret requisitions, and develop appropriate protocol to respond to physician's order.
- Verify that correct information is present to allow for insurance reimbursement.
- Prepare the patient for procedure, including verification of patient history and other details, blood glucose testing, and answering patient questions.
- Administer the PET radiopharmaceutical and other medications as directed, using appropriate radiation safety precautions.
- Monitor patient before, during and after the procedure, depending on the protocol and medications administered.
- Process and evaluate images and identify anatomy based on image interpretation; label and display according to accepted practices.
- Perform image fusion and determine standardized uptake values as necessary.
- Analyze ethical issues relating to nuclear medicine procedures and demonstrate ethical behavior and attitude in the clinical setting.
- Communicate effectively and empathetically with patients and co-workers.
 - Assess the indications and contradictions for given PET and PET/CT procedures based on specific case studies.

RAIT 490 Information & Imaging Management • 3 Cr.

Covers existing data standards, data and information quality, the nature of imaging data, and the ways in which imaging data and information are used within radiology departments and by users outside of radiology. Students apply classroom concepts in their own work and practice settings. Prerequisite: Acceptance to the program or permission of instructor.

Learning Outcomes:

- Define and explain the components of radiology information systems and picture archiving and communication systems,
- analyze how such departmental systems integrate with enterprise-wide clinical and administrative information systems,
- examine the issues and challenges in defining, measuring, and ensuring data and information quality within radiology information systems,
- Compare and contrast existing data standards important to radiology information systems,
- evaluate and utilize existing models for information systems acquisition and implementation processes, identifying the key success factors and critical barriers in each,
- debate the current and future significance of information system interoperability, both within the enterprise and external to the enterprise,
 - Assess and enhance their own leadership and management competencies, in terms of leading change within their own departments, through projects and case studies.

RAIT 494/5/6/7 Radiation & Imaging Sciences Special Topics • V1-5 Cr.

Presents advanced or specialized topics in the field of Radiation & Imaging Sciences. Topics focus on new and emerging trends. Examples include new technology, techniques, clinical research, etc. Specific topics are announced in the quarterly schedule. Prerequisite: Permission of instructor.

Learning Outcomes

After completing this class, students should be able to:

- Special topics course. Outcomes will vary.

Appendix II: External Expert Review

Bellevue College received external reviews from two subject matter experts in higher education. Their complete comments are included following their bios, below. Our responses to the comments are in *italics*.

Professor Jae Kennedy - Bio

Dr. Jae Kennedy is Chair and Professor of the Health Policy and Administration Master program at Washington State University (WSU). He earned a Master of Art through Claremont Graduate School and a Bachelor of Art at Whitman College. He also earned his Ph.D. through the University of California, Berkeley. Dr. Kennedy currently serves as an Editorial Board Member the Open Health Services and Policy Journal as well as Journal of Disability Policy Studies. Professor Kennedy's research has been published in such journals as *Disability and Health, Psychiatric Services, New England Journal of Medicine, American Journal of Managed Care, and Open Health Services and Policy Journal*. In 2010, Dr. Kennedy received the Graduate Advisor Award from the Graduate and Professional Students Association, WSU. In 2009, he received the Faculty Excellence Award, WSU and was a nominee for the Award For Excellence, Journal of Managed Care Pharmacy.⁵

**Review of Bellevue College
Bachelor of Applied Science in Healthcare Management and Leadership
By Jae Kennedy, Ph.D. (Chair and Professor, Master's in Health Policy and Administration at
Washington State University)**

I think the proposal is generally solid.

If you really do aspire to seek CAHME accreditation eventually, you may wish to go to their website and review their accreditation materials:

https://www.cahme.org/CAHME/CAHME_Resources/CAHME/Resources/CAHME_Resources.aspx?key=0834fbf5-60bf-48ba-bf9b-6ac32bd92c16

They take the competency-based learning framework pretty seriously. You've got a decent start with the learning objectives on pages 4 & 5, but they would want a lot more detail on specific competencies, and how they are addressed in the curriculum.

Here are responses to your specific questions:

1. Does the baccalaureate curriculum appear to be on the right general track for healthcare management and leadership entry and mid-level supervisory positions?

I think so, but it might strengthen the proposal to identify specific types of employers and position titles. Again, the CAMHE site is a good resource for this.

CAHME Accreditation: *The Commission on Accreditation of Healthcare Management Education (CAHME) has established measurable criteria for excellent healthcare management education as part of*

⁵ <http://spokane.wsu.edu/admissions/HPA/faculty-staff-directory/Kennedy-Jae.html> (8.2.15)

their mission. According to their website, CAHME is the only organization recognized to grant accreditation to individual academic programs offering a professional master's degree in healthcare management education and is recognized by the Council on Higher Education Accreditation.

2. What are the strengths and weaknesses of the curriculum?

It would be nice to get more detail on the course format (i.e. Online or face-to-face, number and length of class periods, etc.). I'm not a big fan of online courses, but you make a reasonable case for a mixed curriculum. A general health systems course might be a useful intro for the HML and the RIS students – they really need a working knowledge of policy and payment issues.

I'm not sure the internship and capstone are interchangeable – and if I had to choose just one option, it would be field studies.

Course Format: *All of the HCML courses are 100% online. The program includes courses taught 100% on-line (asynchronous) as well as hybrid courses that include on-campus (or remote synchronous) class augmented with on-line content. All of the HCML courses are 100% online. Regardless of the delivery mode, the courses include lectures with group discussions, collaborative group projects, written reports or papers, and oral presentations. Clinical Practicums or internships are available for qualified students and provide an opportunity to increase technical expertise and/or prepare them for entering management positions.*

General Health Systems Course: *HCTM 301 US Healthcare Policies and Delivery Systems • 5 Cr. Introduction to the US types of healthcare delivery systems. Students will identify laws, regulations, standards, initiatives, and payment systems; learn the impact of policies and procedures applicable to the various healthcare organizations; and gain an appreciation of the roles and disciplines of providers throughout the US healthcare system.*

Internship and Capstone: *Students with a background in healthcare and currently (or recently) working in healthcare will benefit from the formal capstone project. The internship is recommended for students with a business background and provides students with the opportunity to gain a deeper understanding of the healthcare environment through industry internship or practicum.*

3. Are the prerequisites appropriate?

Yes.

4. Are there any major elements missing?

Not really, but if you are serious about the leadership piece, they need to develop basic public speaking and solid writing skills. Some more detail on individual and group projects, presentations, and term papers would be useful.

Leadership Skills: *Developing public speaking and writing skills are a priority in our program. As noted above, our courses include group discussions, collaborative group projects, written reports or papers, and oral presentations.*

5. Do you believe this Bachelor's degree will prepare students for a Master's degree at your institution?

We're looking at GPA, GRE and health sector work experience. We pay a lot of attention to the essay, for evidence of critical thinking as well as writing skills. In general, the Bellevue coursework would be excellent preparation for our program.

6. Any comments on the admissions process?

I like it – it seems fair, and the Open Door Institution is well described.

Dr. Carolyn (Cindy) Watts, Ph.D. – Bio

Carolyn A. (Cindy) Watts, Ph.D., is the Richard M. Bracken Chair and Chairman of the Department of Health Administration at Virginia Commonwealth University. With a Ph.D. in economics from the Johns Hopkins University, Dr. Watts has focused her research on organizational, reimbursement and regulatory issues in healthcare markets. Her past research projects have explored the impact of various legislative initiatives on health insurance risk pools and the implementation of various medical home demonstration projects in Washington State. Dr. Watts served as Chair of the 2006 Washington State Certificate of Need Program Task Force and was a founding member of the Health Information Partnership Board. She has worked with the Virginia Hospital and Healthcare Association on a project to measure value in Virginia hospitals, was an inaugural member of the planning committee for the Virginia Healthcare Innovators Awards, and served on an Institute of Medicine Task Force to evaluate the Lovell Federal Health Care Center Merger.⁶

**Review of Bellevue College
Bachelor of Applied Science in Healthcare Management and Leadership
By Carolyn “Cindy” Watts, Ph.D. (Richard M. Bracken Chair and Chairman Department of
Health Administration, School of Allied Health Professions, Virginia Commonwealth University)**

I have taken a somewhat brief look at the two documents you sent me. I have the following thoughts:

1. Does the baccalaureate curriculum appear to be on the right general track for healthcare management and leadership entry and mid-level supervisory positions?

* yes, a great idea, particularly for mid-career folks who may have some clinical training and want to move into management roles. Your evidence on need is strong.

2. What are the strengths and weaknesses of the curriculum?

* I think your curriculum is good. It reflects the content of other undergrad programs around the country (have you discovered the Association of University Programs in Health Administration? It is our accrediting body, and has LOTS of resources for programs at the grad and undergrad level).

⁶ <http://sahp.vcu.edu/departments/ha/facultystaff/carolyn-cindy-watts-phd-.html> (8.2.15)

Accreditation: *Excellent advice. Thank you. We have reviewed the Association of University Programs in Health Administration (AUPHA) website and will explore this option further.*

3. Are the prerequisites appropriate?

* your prerequisites seems appropriate

4. Are there are any major elements missing?

* one specific faculty thought (just because it is my area): it wasn't clear why Prof. Warfield's background made her an obvious choice for the health policy class.

Health Policy Course Instructor: *Dr. Warfield has over 20 years of experience in IT and healthcare IT. She has taught several courses on healthcare systems, basics of health insurance, HIPAA. She also has experience in comparative health systems - looking at what works and doesn't work in different countries.*

* particular strengths: courses in human anatomy and medical terminology

5. Do you believe this Bachelor's degree will prepare students for a Master's degree at your institution?

* in terms of preparation for an MHA, I think it would depend on the student. The content is about right; it would depend on the degree of rigor you are able to bring with your faculty and the students you are able to attract. You might also check with the UW MHA program (you probably have already done this!)

* most of the universities from which our students come have more PhD faculty than your list. However, that may or may not be a predictor of the quality of the education that faculty bring, especially at the undergrad level. I understand your open admissions policies, and applaud them. That may (or may not) mean that your grads would have difficulty getting into the top tier MHA programs, but there are plenty of excellent programs that are not able to be as selective as the top tier programs. For all professional programs, prior experience is a very important admissions criterion, and your students will have more than the average applicant on that score.