

BOARD OF HIGHER EDUCATION

REQUEST FOR COMMITTEE AND BOARD ACTION

COMMITTEE: Academic Affairs

NO: AAC 18-12

COMMITTEE DATE: December 5, 2017

BOARD DATE: December 12, 2017

**APPLICATION OF THE WESTFIELD STATE UNIVERSITY TO AWARD THE
BACHELOR OF SCIENCE IN HEALTH SCIENCES**

MOVED: The Board of Higher Education hereby approves the application of the **Westfield State University** to award the **Bachelor of Science in Health Sciences**.

Upon graduating the first class for this program, the University shall submit to the Board a status report addressing its success in reaching program goals as stated in the application and in the areas of enrollment, curriculum, faculty resources, and program effectiveness.

Authority: Massachusetts General Laws Chapter 15A, Section 9(b)

Contact: Winifred M. Hagan, Ed.D., Associate Commissioner for Academic Affairs and Student Success

**BOARD OF HIGHER EDUCATION
December 2017
Bachelor of Science in Health Sciences**

INTENT AND MISSION

The Westfield State University (WSU) proposed Bachelor of Science in Health Sciences (BSHS) program is reported to be consistent with the institutional mission to educate all students in a diverse and welcoming community. WSU helps students develop the knowledge, skills, and character essential to reaching their full potential and contribute to the economic, social, and cultural vitality of the region.

The major objective of the proposed BSHS program is to prepare WSU graduates to apply to graduate schools for high-need workforce areas in advanced health professions such as physician assistant, physical therapy, occupational therapy, bioinformatics, athletic training, emergency management, public health, nursing, health education, and epidemiology. It is intended that students in the proposed program will earn one professional credential relevant to an intended career path (emergency medical technician (EMT), certified nursing aide (CNA), medical scribe, personal care assistant, phlebotomy technician etc.). WSU expects that this requirement will provide students with the patient contact hours required to meet application requirements for graduate schools in a variety of health fields.

It is intended that students may take classes at other area institutions through partnerships and collaborations, such as the academic exchange agreement through Cooperating Colleges of Greater Springfield. Springfield Technical Community College offers Certified Nurse Aide (CNA), EMT and Phlebotomy programs, and Holyoke Community Colleges also offers an EMT program. WSU intends that students transferring from these programs into the proposed BS in Health Sciences would have this credential requirement satisfied. It is also intended that students transferring from community colleges may come to Westfield having already earned a health care credential to complete their contact hours. In addition, Westfield intends that, in anticipation of the health sciences degree being added to the A2B transfer pathways, it will pro-actively work with local community colleges to develop STEM block-based articulation agreements between community college programs and the proposed degree. The proposed program obtained all necessary governance approvals on campus and was approved by the Board of Trustees of Westfield State University on April 13, 2017. The required letter of intent was circulated on June 19, 2017. No comments were received.

NEED AND DEMAND

National and State Labor Market Outlook

WSU reported that US Department of Labor's Bureau of Labor Statistics indicates employment of physician assistants is expected to grow much faster than average the of 38% for all occupations through the year 2022, ranking among the fastest growing of occupations. WSU also reported that during the years ranging from 2014-2024,

employment of athletic trainers is expected to grow 21%; employment of occupational therapists is expected to grow 27%; that of physical therapists is expected to grow 34%, and that Massachusetts is predicted to have a growth rate of 29%¹.

Westfield State University conducted an external investigation via the Education Advisory Board, a Washington, DC based research firm, to gain insight on the labor market demand for this program. A preliminary release of their upcoming report demonstrates Massachusetts 'employer demand for Bachelor's-level Health Science professionals have increased 67% over the last two years and over 40 percent nationally." (EAB, Burning Glass)². This report also demonstrates that in addition to the abovementioned career paths, occupations for bachelor's level health science professionals had 3,225 job postings over the last year in our region (region consists of Massachusetts, Connecticut, Vermont, New York, and Rhode Island). WSU further indicated that the report demonstrates the United States Bureau of Labor Statistics projects employment in health science occupations to grow 19 percent from 2014-2024.

Data was also gathered from Burning Glass Technologies,³ showing companies in Massachusetts to have posted a combined 1,239 jobs in Athletic Training, Occupational Therapy, Physical Therapy, and Physician Assistants over the last 3 months. Over the last 12 months in the same occupations, Massachusetts posted 3,481 jobs. Massachusetts is listed in the top 15 regions in the US for these career opportunities.

Student Demand

In 2014, WSU students were surveyed from multiple majors and all academic grade levels to determine interest in health science related fields. WSU reported that the survey gathered 536 responses indicating that 49.5% of those students were very interested or already trying to pursue a career in the healthcare field. Respondents expressed interest as follows: Physical Therapy at 27.9%; Athletic Training at 22.1%; Occupational Therapy at 19.9% and Physician Assistant at 13.7% (, with a variety of other healthcare related fields also noted. Out of 639 answers received from current students, 34.9% indicated they would switch their major to Health Science if it was available at WSU. It is understood that the students expressing interest in these career paths are coming from a variety of departments making it difficult to plan for course enrollment and consistent advising. WSU assumes 25 internal transfers from accepted students into the proposed program during their sophomore year. In year 2 WSU plans to accept 40 students and in subsequent years full capacity will be at 50 new students each year. WSU expects up to 25 new full-time day students to the program once the program is approved and fully enrolled. WSU plans that at maximum capacity, a total of 140 students will be enrolled in the program, assuming no attrition.

¹ Westfield State University reported the source as *Burning Glass Technologies, 2016*.

Combined data from Bureau of Labor Statistics and state projections (Massachusetts Executive Office of Labor and Workforce Development [EOLWD]), retrieved March 2017

² Westfield State University reported the source as 11/6/17. "Education Advisory Board, Washington DC. (2016). *Market Demand Analysis for a Bachelor of Science in Health Science and a Post-Baccalaureate in Health Science*. Data retrieved from Burning Glass Technologies August 2016).

³ Westfield State University reported the source as 11/6/17. *Labor Insight, Burning Glass Technologies, 2016*. Retrieved, October 2016).

OVERVIEW OF PROPOSED PROGRAM

Program Overview

The proposed program is planned to be an interdisciplinary one with only five new courses created to form the major. The multidisciplinary design is expected to remove the silo approach to educating practitioners. WSO holds that case-based pedagogy is much more effective when students have experienced the environment in which the case is created. It is planned that all program core courses will be taught using inter-professional education values consisting of teamwork, conflict resolution and effective use of informatics. Student team assignments and assessments using case-based, problem-based pedagogy and simulation will be utilized, as will the grounding of evidence based practice and the integration of information literacy throughout the curriculum. The proposed program is further expected to attract students that plan to apply for a graduate degree in a healthcare field such as a physical therapy, physician assistant, occupational therapy, or medical school. Based upon current Accreditation Council for Occupational Therapy Education (ACOTE) standards, students applying to either a master's degree in occupational therapy or clinical doctorate degree in occupational therapy require a bachelor degree and a number of advanced prerequisites. WSU has designed the proposed program to be suited for this as well as other graduate pathways.

Duplication

Public 4-Year Institutions:

Fitchburg State University offers a health sciences concentration in the BS Biology program, which addresses the increased interest in health professions and is designed to prepare students for pursuing graduate studies. In addition to the core requirements for the Bachelor of Science in Biology the curriculum for the health sciences concentration is based on the student's intended career path. Worcester State University offers a BS in Occupational Studies which prepares students with prerequisites for Worcester State's MS in Occupational Therapy. Worcester State additionally offers a health sciences program as an alternative post-baccalaureate option toward the MS in Occupational Therapy. The Massachusetts College of Liberal Arts (MCLA) was recently approved to offer a BS in Health Sciences with a similar curriculum design to the proposed program. The Department of Kinesiology in the University of Massachusetts School of Public Health and Health Sciences in Amherst offers a BS in Kinesiology. Salem State University offers a combined BS/MS bridge program in Occupational Therapy and a direct-entry MS program in occupational therapy for students who have completed a bachelor's degree in another field of study.

Independent 4-year Institutions:

Independent institutions that offer a health science program at the undergraduate level include American International College, Anna Maria College, Bay Path University, Boston University, MCPHS University, Merrimack College, and Springfield College

ACADEMIC AND RELATED MATTERS

Admission

Admission to the proposed program is expected to be competitive and space is planned to be restricted. WSU plans that students will be accepted in cohorts, and will apply to the health sciences major as first-year or transfer students. Admissions requirements for first-year students applying to the program include a completed application and \$50.00 application fee; college essay; 17 high school-level, college preparatory courses; official high school transcripts; a minimum high school GPA of 2.80; SAT/ACT scores that meet the minimum eligibility requirements (a sliding scale based on a recalculated high school cumulative grade point average and SAT and/or ACT scores commensurate with requirements to qualify for admission to a state university). WSU does not expect that all applicants who meet the minimum eligibility requirements will be guaranteed admission.

Admission requirements for internal transfer students already accepted to WSU include an overall college GPA of 2.80 and a 3.0 GPA required for all prerequisite courses. Admission requirements for external transfer students include a completed application fee and \$50.00 application fee (waived for MassTransfer students); college essay; official high school transcripts and/or official college transcripts; an overall college GPA of 2.80 and a 3.0 GPA required for all prerequisite courses being transferred; SAT/ACT scores if transfer credit is less than 24 credits or if the student graduated from high school within the last three years.

Program Enrollment

	Year 1 2018-2019	Year 2 2019-2020	Year 3 2020-2021	Year 4 2021-2022
New Full-Time	25	40	50	50
Continuing Full-Time	0	25	65	90
New Part-Time	0	0	0	0
Continuing Part-Time	0	0	0	0
Totals	25	65	115	140

Curriculum (Attachment A)

The proposed program is planned to be an interdisciplinary one with only five new courses created for the proposed curriculum, which consists of existing coursework in the collaborating academic departments including chemistry, biology, communications,

psychology and health sciences, and five courses in the health sciences. Student will be expected to navigate the coursework and optimize their transcripts to become competitive for graduate school, includes acquiring clinical experiences as an integral part of the learning.

Internships

WSU has detailed plans for clinical practice experiences embedded in the coursework for the proposed program. Leaders from the health science industry in the region are participants on the advisory committee and expected to assist WSU in the development of appropriate sites for clinical experiences.

RESOURCES AND BUDGET

The University has hired a faculty member who will serve as the director of a proposed occupational therapy graduate program, anticipated to begin in early 2019. The OT director, in particular, and other current health science faculty will provide advisement to students until the second year of the health sciences program at which time the University will hire its first dedicated faculty for the program. Although admitted in the program as freshman, health sciences students take required prerequisite and core courses in their first year. Students do not take health sciences courses until the second year of the program. A part-time clinical coordinator will be hired in year 3 of the program. The Health Sciences Department will hire additional faculty as the enrollment grows, anticipated in year 4 of the program. Likewise, it is also anticipated a science faculty member will need to be hired in year 2 to support the additional demand for science courses that the proposed program will create.

Fiscal (Attachment B)

The budget for the proposed program was designed with the assumptions that WSU will use the existing faculty in related departments to provide advisement to students for the first academic year. WSU does expect that the proposed health sciences program will create a need for additional science courses and additional faculty, who are expected to be hired in years 2 and 4. It is also assumed that overhead will account for 46% of the budget and that expenses will increase at a rate of 3% annually. It is further assumed that all students will be enrolled full time and that student costs will increase at a rate of 3% as well.

Faculty and Administration (Attachment C)

One faculty member has already been hired and it is expected that an additional member will be hired once the program has earned approval. It is anticipated that health sciences faculty will provide advisement to students until the second year of the health science program at which time WSU plans to hire a dedicated faculty member for the

program. A part-time clinical coordinator will be hired in year 3 of the program. WSU plans to hire additional faculty commensurate with enrollment growth and additional demand for science courses.

Facilities, Library and Information Technologies

WSU expects that the proposed program will be housed in the Department of Health Sciences. It is also planned that as innovative technologies emerge, the program will invest in the science educational technologies that are similar to the resources utilized in the advanced health science professions.

Affiliations and Partnerships

WSU has an external advisory committee in health sciences, composed of medical providers and educators, established in 2015 to guide discussions during curriculum development. WSU plans that these board members will help determine internship sites and liaison to the medical community. A detailed list of the members and their affiliations was included in the proposal.

PROGRAM EFFECTIVENESS

The WSU Health Sciences Department plans to undergo program assessment yearly consistent with institutional guidelines. This is anticipated to include gathering and analysis of data to include admission and completion rates, graduate school admission data, graduates’ success in advanced programs, employment data of graduates, and student and faculty program satisfaction. The department chair is responsible for the gathering and analysis of data and for the submission of the annual report to the undergraduate and graduate deans.

Goal	Measurable Objective	Strategy for Achievement	Timetable
1. Increase student flexibility to explore a variety of aspects of healthcare.	Provide academic and clinical experiences to all HS students. 100% of students will complete a minimum of 24 hrs in a health-related community program in each of the last 3 years of study.	Didactic and Clinical partnerships in a variety of health professions. Documentation of 24 hours with student reflections.	Year 2-4
2. Utilize a multidisciplinary approach to problem solving and patient care.	Provide instruction and clinical experiences in team based care. 95% of students will participate in a minimum of one group assignment similar to ‘grand rounds’, per year of the last three years of study.	Didactic and benchmarked clinical partnerships in a variety of health professions. One class per year will be designated a case class to allow for group discussion and implementation of concepts taught.	Year 2-4
3. Prepare students to be leaders in the new model of healthcare.	Leadership project opportunities for each student. 100% of students will present an educational poster in a student	Leadership projects embedded in course assignments. Students will design and	Year 4

	conference format.	implement a campus wide student conference for participants to have a professional presentation experience.	
4. Provide education and experience in communicating and managing widely diverse patients	Educational content in coursework and clinical experiential learning in diverse settings. 95% of students will score acceptable or higher on a community experience feedback tool and those who do not score acceptable will make a self-assessment plan in consultation with their academic advisor.	Assignment to clinical settings with diverse patients. Department faculty to design a clinical experiential tool form that considers respectful communication skills necessary to practice in healthcare.	Year 2-4
5. Increase accessibility of graduate school prerequisites.	Provide prerequisite coursework for admission to graduate HS programs within the students' academic major and timeline. 90% of juniors will identify their interest in graduate school.	Student survey and progression data collection and analysis. Faculty will identify program needs and arrange curriculum plan to meet the needs of 100% of their students who apply to graduate school.	Year 2-4
6. Increase marketability of students as they apply to graduate schools and professional positions.	Provide adequate UG experiences to allow an 80% acceptance rate to graduate HS programs.	Measure student and graduate data for admissions and student success in graduate HS programs.	Year 4
7. Broaden teaching service and scholarship opportunities for faculty members.	Increase faculty research and scholarship opportunities by 25%. 100% of faculty will identify their support needs for service and scholarship.	Include research and scholarship projects for HS students with faculty mentorship.	Year 4
8. Promote interdepartmental collaboration.	80% of the curriculum will be taught by interdepartmental faculty and departments.	Monitor faculty workload and assignments to HS courses, analysis of faculty professional development plans.	Year 2-4

The Health Sciences Department is expected to assess the program annually, including gathering and analysis of data regarding admission and completion rates, graduate school admission data and success in advanced programs, employment data, and student and faculty program satisfaction.

EXTERNAL REVIEW AND INSTITUTIONAL RESPONSE

The program was externally reviewed by Medea Valdez, DHEd⁴., PA-C⁵, Director of the School of Physician Assistant Studies at Kean University in Union NJ, and by Donald

⁴ Doctor of Health Education

Walkovich, DHSc⁶, Dean of the School of Health Sciences at Saint Francis University in Loretta, PA. The reviewers found the proposed program to respond to a clearly demonstrated need for a health science program in the region. They noted a strong and liberal arts based foundation and suggested the interdisciplinary nature of the program would be an effective means of developing future professionals. The focused health science courses were found to provide in-depth study with experiential learning outcomes strengthening student learning. WSU was commended by the review team for a careful and thoughtful course of planning with strong support from the institution. The team described the proposed program as one of coherent and reasonable design with clear goals and measurable objectives. The reviewers made suggestions regarding admissions, advising, course requirements, culminating experiences, faculty qualifications and evidence of leadership preparation.

WSU responded to the suggestions with point-by-point descriptions of how they would be applied to modify and change the proposal. The proposal submitted to staff for review reflected the adjustments to the program design in each of the areas addressed by the reviewers and in WSU's response to the review.

STAFF ANALYSIS AND RECOMMENDATION

Staff thoroughly reviewed all documentation submitted by Westfield State University and the external reviewers. Staff recommendation is for approval of the proposed **Bachelor of Science in Health Sciences** program.

⁵ Physician Assistant Certified

⁶ Doctor of Health Sciences

ATTACHMENT A: CURRICULUM

Required (Core) Courses in the Major (Total # courses required = 12)		
<i>Course Number</i>	<i>Course Title</i>	<i>Credit Hours</i>
	Major Required Core Courses	
HESC 0101	Introduction to Healthcare Practice	3
HESC 0201	Human Assessment	3
HESC 02XX	Medical Ethics	3
HESC 03XX	Public Health Interventions (CE)	3
HESC 3XX	Research Methods in Evidence Based Medicine	3
BIOL 237	Anatomy and Physiology I	4
BIOL 239	Anatomy and Physiology II	4
CHEM 109	General Chemistry I	4
CHEM 111	General Chemistry II	4
	Choose 2 courses from the following:	
PHYS 0115	General Physics I	4
PHYS 0117	General Physics II	4
CHEM 0201	Organic Chemistry I	4
CHEM 0203	Organic Chemistry II	4
BIOL 0203	Genetics	4
BIOL 0209	Medical Microbiology or BIOL 0223 Microbiology	4
	Choose one of the following:	
COMM 102	Introduction to Human Communication	3
PSYC 207	Lifespan Development	3
PSYC 311	Health Psychology	3
PSYC 0312	Physiological Psychology	3
	Sub Total Required Credits	42
Elective Courses (Total # courses required = 2)		
		6
	General Education elective credits	23

	Sub Total Elective Credits	29
Distribution of General Education Requirements Attach List of General Education Offerings (Course Numbers, Titles, and Credits)		# of Gen Ed Credits
Arts and Humanities, including Literature and Foreign Languages		18
Mathematics and the Natural and Physical Sciences <ul style="list-style-type: none"> • Specific required general education courses students must take are: MOVP 0100 Science of Health and Wellness (3 cr); BIOL 0129 Introduction to Molecular, Cellular, and Developmental Biology (4 cr); MATH 0108 Elementary Statistics (or appropriate course with advisor approval) 		13
Social Sciences <ul style="list-style-type: none"> • Specific required general education courses students must take are: PSYC 0101 Introduction to Psychology (3 cr) and SOCI 0101 Introduction to Sociology (3 cr) 		18
Sub Total General Education Credits		49
Curriculum Summary		
Total number of courses required for the degree		37-38
Total credit hours required for degree		120
<p>Prerequisite, Concentration or Other Requirements: Admission to the program is competitive. Students will be accepted in cohorts, and will apply as freshmen or in the spring of their first year for admission the following fall.</p> <p>Students requesting internal transfer to the UND program must apply by May 1st for the following fall admission; and must submit the following:</p> <ol style="list-style-type: none"> 1. Must attend an information session held early spring (March) 2. Minimum cumulative undergraduate grade point average of 3.0 with a minimum of 15 required credits taken: <ul style="list-style-type: none"> PSYC 0101 Introduction to Psychology MOVP 0100 Scientific Foundations of Health, Wellness and Exercise BIOL 0129 Introduction to Molecular, Cellular and Developmental Biology BIOL 0237 Anatomy and Physiology I 3. Personal Statement/Narrative <p>Students must complete all Health Science core courses with a minimum of 3.0 GPA.</p>		

ATTACHMENT B: BUDGET

BS Health Sciences

Cost Categories	Annual Expenses			
	Year 1 (AY 18-19)	Year 2 (AY 19-20)	Year 3 (AY 20-21)	Year 4 (AY 21-22)
Full-Time Faculty (salary/fringe)		114,380	117,811	239,157
Part Time/Adjunct Faculty in Department			18,000	18,540
Full-time Faculty Other Department (salary and fringe)		114,380	115,154	118,609
Staff (Department Adm Assistant, salary and fringe)	59,850	61,646	63,495	65,400
Clinical/Internship Coordinator (1/2 FTE)		31,920	32,640	33,619
Subtotal Staff	59,850	322,326	347,100	475,325
General Administrative Costs	5,750	5,923	6,100	6,283
Faculty Search	3,000		1,500	
IT resources for faculty/staff		10,000	10,000	10,000
Instructional Materials, Library Acquisitions	12,575.00	12,952.25	13,340.82	13,741.04
Program Expenses	21,325	28,875.25	30,940.82	30,024.04
Overhead	11,500.00	138,599.97	149,253.11	204,389.61
University Operations (marketing, course delivery in other departments, etc.)	40,640.00	96,319.02	180,868.89	227,347.18
Total Expenses	133,315.00	586,120.24	708,162.82	937,085.83

<i>Revenue Sources</i>	<i>Annual Income</i>			
	Year 1	Year 2	Year 3	Year 4
Tuition	-24,250	-63,050	-87,300	-106,700
Fees	227,450	544,645	991,644	1,243,436
TOTAL GROSS REVENUE	203,200	481,595	904,344	1,136,736
TOTAL NET REVENUE	69,885	-104,525	196,181	199,651

FY 17 (Year1)Total Annual Cost	\$9,098
Year 1-4 Tuition	\$970
Year 1 Fees	\$8,128
Year 2 Fees	\$8,371.84
Year 3 Fees	\$8,623.00
Year 4 Fees	\$8,881.69

*Tuition and fees are based on current rates and assume 3% increase per year.

ATTACHMENT C: FACULTY

Summary of Faculty Who Will Teach in Proposed Program							
Name of faculty member	Check if Tenured	Courses Taught (C) indicates a core course (OL) indicates any course currently taught online. ALL COURSES LISTED ARE CORE	Number of sections	Division of College of Employment	Full- or Part-time in Program	Full- or part- time in other department or program)	Sites where individual will teach program courses
*Jen Hixon, DHSc, PA-C, Ed.D Professor, Founding PA Director and Chair of Health Sciences *may teach in academic year 2018; has been teaching Intro to Health Course and Human Assessment as elective courses	<input type="checkbox"/>	Intro to Healthcare Human Assessment	Up to 2 depending	Health Sciences	Part-time	Physician Assistant/Program Chair	Main campus
Health Science Faculty/OT director (may teach in Academic Year 2018-2019)	<input type="checkbox"/>	Intro to Healthcare Human Assessment	Up to 2	Health Sciences	Part-time	Proposed Occupational Program	Main campus
Health Science CORE Faculty 1 (To be hired in year 2)	<input type="checkbox"/>	Intro to Healthcare Human Assessment Medical Ethics Research Methods Public Health Interventions	6-8 total sections	Health Sciences	Full-time	Health Sciences/Undergraduate Program	Main campus
Health Science CORE Faculty 2 (To be hired in year 4)	<input type="checkbox"/>	Intro to Healthcare Human Assessment Medical Ethics Research Methods Public Health Interventions	6-8 sections	Health Sciences	Full-time	Health Sciences/Undergraduate Program	Main campus