Comparison between BS Biology and BS Allied Health Technologies Degrees

Millersville University has traditionally offered three collaborative, university-hospital based degree programs. Each of these programs is designated as a 3/1 program in which students attend Millersville University for three years and then complete a one-year clinical program at an affiliated hospital. At the completion of the clinical phase of the program, the student is awarded a B.S. degree in Biology with an option in Medical Technology, Nuclear Medicine Technology, or Respiratory Therapy. Because the programs are all options within a biology degree program and include core courses required of all biology majors, the curriculum is rather rigid. There has been little opportunity to use courses that would better serve students who have chosen to prepare for a health care profession and stay within the l20-credit graduation limit. For example, our students are not required to take any courses that focus on the patient during the first three years at the university and generally do not take a biomedical related course until their junior year.

A new degree program that began in Fall 2009 awards a Bachelor of Science Degree in Allied Health Technologies. The restructuring of the curriculum creates a new degree that reduces some of the traditional Biology degree requirements, provides the flexibility to add important new courses, and allows the students to enroll in courses with a medical focus earlier in their academic career at Millersville University. Students will begin biomedical science courses in their freshman year. This new B.S. Allied Health Technologies degree program

This new B.S. Allied Health Technologies degree program will continue to meet all of the rigorous requirements needed to obtain certification in the health care professions but will provide a sharper focus on health care than does the B.S. Biology course of study that requires a broad base in the science of biology. The new degree is more likely to attract students whose interest's center on one of the health care professions. Many students who are interested in pursuit of a career in Allied Medical fields are more interested in the clinical aspects of those fields than in their biological underpinnings. The proposed B.S. in Allied Health Technology will still give these students a firm background in biology, chemistry, math, and physics while exposing them sooner and in greater depth to the courses that interest them most. This will afford students a greater opportunity for success and prepare them better for the careers to which they aspire.

The department also recognizes that some students will want to have an even stronger background in biology, math, and physics before they begin the clinical phase of their undergraduate education; therefore, it will keep its BS degree in Biology with options in Respiratory Therapy, Nuclear Medicine Technology, and Medical Technology for these students. This degree program is recommended for students who might be considering going to a graduate or professional school following completion of their clinical training.

MAJOR SEQUENCE AND DEGREE REQUIREMENTS
BS BIOL and BS ALHT Pre-Athletic Training
Side by Side Comparison

Major: **BS BIOLOGY**
Option: **Pre-Athletic Training**
Major Field Requirements: **83 credits**

Other Requirements: **28-30 credits**

REQUIRED BIOLOGY COURSES (12 credits)

BIOL 101	Foundations of Biology	4.0
BIOL 211	Concepts of Zoology	4.0
BIOL 362	Cell & Development Biol.	4.0

REQUIRED PATHL COURSES (14 credits)

BIOL 254	Human A & P I	4.0
BIOL 255	Human A & P II	4.0
BIOL 352	Nutritional Science	3.0
BIOL 375	Biometry	3.0

CLINICAL EDUCATION (57 credits)

Millersville University
Wellness & Sport Sciences Courses (18 credits)

West Chester University Courses (15 credits)

WCU Videoconferencing Courses (24 credits)

REQUIRED RELATED (28.0-30.0 credits)

Chemistry (16 credits)

CHEM 111	Intro to Chemistry I	4.0
CHEM 112	Intro to Chemistry II	4.0
CHEM 235	Organic Chemistry	4.0
CHEM 326	Biochemistry	4.0

Mathematics (4-5 credits)

Math 161	Calculus	4.0
or 163	Calculus w/ Honors	5.0

Physics (8-10 credits)

PHYS 131	Phys I w/Algebra	4.0
PHYS 132	Phys II w/Algebra	4.0
	------ or -----	
PHYS 231 & 232	Phys I&II w/Calculus	5.0

PSYC 100 General Psychology 3.0

Major: **BS ALLIED HEALTH TECHNOLOGIES**
Option: Pre-Athletic Training
Major Field Requirements: **86 credits**

Other Requirements: **30 credits**

REQUIRED BIOLOGY COURSES (28 credits)

BIOL 100	General Biology	3.0
BIOL 254	Human A&P 1	4.0
BIOL 255	Human A&P 2	4.0
BIOL 257	Intro to Allied Health	1.0
BIOL 362	Cell & Development Biol.	4.0
BIOL 352	Nutritional Science	3.0
BIOL 364	Genetics & Molec. Biol.	4.0
BIOL 454	Immunology	2.0
BIOL 461	General Microbiology	3.0

CLINICAL EDUCATION (57 credits)

Millersville University
Wellness & Sport Sciences Courses (18 credits)

West Chester University Courses (15 credits) WCU

Videoconferencing Courses (24 credits)

REQUIRED RELATED (28.0-30.0 credits)

Chemistry (16 credits)

CHEM 111	Intro to Chemistry I	4.0
CHEM 112	Intro to Chemistry II	4.0
CHEM 235	Organic Chemistry	4.0
CHEM 326	Biochemistry	4.0

Mathematics (7 credits)

MATH 130	Statistics	3.0
MATH 160	Precalculus	4.0

Physics (4 credits) - Phys I w/Algebra

General Education Course (G3)

PSYC 100 General Psychology 3.0

Bachelor of Science in Biology: Pre-athletic Training

SAMPLE PROGRAM (148.0 s.h. minimum) (Highly prepared at admission)

FIRST SEMESTER					**SECOND SEMESTER**					**FIRST SUMMER**			
BIOL	101*	Fdns of Biology	4		BIOL	211	Concepts of Zoology	4		BIOL	254	Human A & P I	4
CHEM	111	Intro Chemistry 1	4		CHEM	112	Intro Chemistry II	4		BIOL	255	Human A & P II	4
COMM	100	Funds. of Speech	3		MATH	160 or 161	Calculus or MATH/CSCI	4					
WCU-DL	SMD 100	Fdn Sports Medicine	3		ENGL	110	English Composition	3					
		TOTAL S.H.	*14*				*TOTAL S.H.*	*15*				*TOTAL S.H.*	*8*
THIRD SEMESTER					**FOURTH SEMESTER**					**SECOND SUMMER**			
WSSD	591	Exr. Physio	3		WSSD	450	Kinesiology	3		SMD	310	Therap Mod w/Lab	4
WSSD	311	First Aid & CPR	3		BIOL	375	Biometry	3		SMD	311	Therap Exer w/Lab	5
WELL	175	Wellness (CEC)	3		BIOL	352	Nutritional Science, W	3		SMD	312	Path/Eval Athl Inj II	3
BIOL	362*	Cell & Devel. Bio., W	4		G1		Humanities 1	3		SML	313	Path/Eval Athl Inj III	3
PSYC	100	Gen Psychology (G3,1)	3		G3	___	Social Science 2, D	3		WSSD	390	Ath Trng Techn Anat	3
		TOTAL S.H.	*16*				*TOTAL S.H.*	*15*				*TOTAL S.H.*	*18*
FIFTH SEMESTER					**SIXTH SEMESTER**								
P	___	Perspectives (CEC)	3		WCU-DL	SMD 212	Path/Eval Ath Inj 1	3					
WCU-DL	SMD 315	Ath Inj Mgmt 1	3		WCU-DL	SMD 316	Ath. Inj. Mgmt II	3					
CHEM	235	Organic Chemistry	4		CHEM	326	Biochemistry I	4					
G1	___	Humanities 2,W	3		G1	___	Humanities 3,W	3					
G3	___	Social Science 3	3		WSSD	485	Performance Enhan	3					
		TOTAL S.H.	*16*				*TOTAL S.H.*	*16*					
SEVENTH SEMESTER					**EIGHTH SEMESTER**								
WCU-DL	SMD 414	H,O,&A of AT	3		WCU-DL	SMD 418	Ath. Inj. Manage IV	3					
WCU-DL	SMD 417	Ath. Inj. Mgmt III	3		WCU-DL	SMD 454	Ther/Pract Cond.	3					
PHYS	131	Physics 1 w/Algebra	4		ENGL	312	Technical Writing (AW)	3				Total Credits	148
BIOL	364*	Genetics & Molecular	4		ELEC	___	Gen Ed Open Elective (CEC)	3					
					PHYS	132	Physics 2 w/Algebra	4					
		TOTAL S.H.	*14*				*TOTAL S.H.*	*16*					

*New course

Note: Less Prepared Students -- A sample schedule is not provided for less prepared students. The rigorous requirements of the Pre-Athletic Training option would make it difficult for those needing remedial courss such as CHEM 110 and MATH 101 to complete all requirements within the normal time frame.

revised 4-26-10

			Bachelor of Science in Allied Health Technologies: Pre-Athletic Training										
SAMPLE PROGRAM (148.0 s.h. minimum)													
	FIRST SEMESTER				**SECOND SEMESTER**					**FIRST SUMMER**			
BIOL	257	Intro to Allied Health	1		COMM	100	Funds. of Speech	3		BIOL	254	Human A & P I	4
ENGL	110	English Composition	3		MATH	160	Pre-Calculus	4		BIOL	255	Human A & P II	4
CHEM	111	Intro. Chemistry I	4		CHEM	112	Intro. Chemistry II	4					
BIOL	100	General Biology	3		WELL	175	Wellness (CEC)	3					
WCU-DL	SMD 100	Fdn Sports Medicine	3										
		TOTAL S.H.	*14*				*TOTAL S.H.*	*14*				*TOTAL S.H.*	*8*
THIRD SEMESTER					**FOURTH SEMESTER**					**SECOND SUMMER**			
WSSD	591	Exercise Physiology	3		WSSD	450	Kinesiology	3		SMD	310	Therap Mod w/Lab	4
WSSD	311	First Aid & CPR	3		WCU-DL	SMD 212	Path/Eval Athl Inj 1	3		SMD	311	Therap Exer w/Lab	5
PSYC	100	Gen Psychology	3		BIOL	352	Nutritional Science, W	3		SMD	312	Path/Eval Athl Inj II	3
CHEM	235	Organic Chemistry	4		BIOL	362	Cell & Develop Bio, W	4		SML	313	Path/Eval Athl Inj III	3
G3	___	Social Science #1, D	3		G1	___	Humanities #1	3		WSSD	390	Ath Trng Techn Anat	3
		TOTAL S.H.	*16*				*TOTAL S.H.*	*16*				*TOTAL S.H.*	*18*
	FIFTH SEMESTER				**SIXTH SEMESTER**								
G1	___	Humanities #2, W	3		CHEM	326	Biochemistry I	4					
WCU-DL	SMD 315	Ath. Inj. Mgmt. 1	3		WCU	SMD 316	Ath. Inj. Mgmt. II	3					
G1	___	Humanities #3	3		G3	___	Social Science 2,W	3					
MATH	130	Elements of Statistics 1	3		WSSD	485	Performance Enhance	3					
ELEC	___	Gen Ed Open Elec (CEC)	3		G3	___	Social Science #3, D	3					
		TOTAL S.H.	*15*				*TOTAL S.H.*	*16*					
	SEVENTH SEMESTER				**EIGHTH SEMESTER**								
WCU-DL	SMD 414	H,O,&A of AT	3		WCU-DL	SMD 418	Ath. Inj. Mgmt. IV	3					
WCU-DL	SMD 417	Ath. Inj Mgmt. III	3		WCU-DL	SMD 454	Ther/Pract Cond.	3					
PHYS	131	Phys 1 w/Algebra	4		ENGL	312	Technical Writing (AW)	3					
BIOL	461	General Microbiology	3		BIOL	364	Genetics & Molec Bio	4					
P	___	Perspectives (CEC)	3		BIOL	454	Immunology	2					
		TOTAL S.H.	*16*				*TOTAL S.H.*	*15*					

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