

**Appendix - COMPARISON OF CREDIT HOURS FOR BACHELOR DEGREE PROGRAMS**

Academic Credit Hours																	
		Biology 100	Biology 200	Biology ≥ 300	Biology for non-majors*	Chemistry 100	Chemistry 200	Chemistry ≥ 300	Chemistry for Non-majors*	MLS Chemistry	MLS Hematology	MLS Microbiology	MLS Blood Bank	MLS Immunology/UA	MLS Other	MLS Clinical Rotation	Other
UNIVERSITY	DEGREE	BIOLOGY				CHEMISTRY				MEDICAL LABORATORY SCIENCE**							
Case Western Reserve University	BS Nursing	9			4 <sup>1</sup>	6											<sup>1</sup> NURS 342 – Medical Microbiology
	B.S. Biology		12	23		8	8	3									
University of Maryland	BS Nursing				12 <sup>2</sup>				4 <sup>2</sup>								<sup>2</sup> These are pre-requisites to enter into the nursing program. It is not specified whether these courses can be biology/chemistry for non-majors
	Biology	8 <sup>3</sup>	7 <sup>3</sup>	20		4 <sup>3</sup>	12 <sup>3</sup>	3									<sup>3</sup> These are required specific benchmark courses which must be completed with a specific grade in the course, while maintaining a specific GPA and within a specific timeframe. Failure to meet these parameters will lead to dismissal from the major.
	Medical Laboratory Science	8	4	8 <sup>4</sup>		8	8 <sup>4</sup>			10	6	10	4	10	9	13	<sup>4</sup> This is dependent on elective course selection, 8 credits can be in biology, chemistry or physics.
University of Illinois	BS Nursing	5		3	10 <sup>5</sup>				5 <sup>6</sup>								<sup>5</sup> KN (10) - Human Physiological Anatomy is categorized as a Kinesiology course
	Biology	10	19	7		5	6				8		4				<sup>6</sup> CHEM 130 (5) – Survey of Organic and Biochemistry, not a class for biology or chemistry majors
	Medical Laboratory Science	10		4		10	6			5	4	4	3			1	
Marquette University	BS Nursing				5 <sup>7</sup>				6 <sup>8</sup>								<sup>7</sup> BISC1015 Principles of Human Anatomy & Physiology – a requirement for BSN. For MLS, either BISC1015 or BISC4145 (Human Physiology) is required.
	Biology	6	6	23		8	8				8						<sup>8</sup> BISC 2070(3) is Biochemistry for Health Professionals and is a requirement for BSN. For MLS, either BISC2070 OR BISC 3213 (Biochemistry) is required.
	Medical Laboratory Science	6			5 <sup>7</sup>	8	4		3 <sup>8</sup>	7	8	11	3	2	10	15	

\*non-majors – indicates a course taken to fulfill a science requirement for degree completion (usually not intended for science majors).

\*\*Medical Laboratory Science courses are predominately at the 400 level.

**Saint Louis University**  
**Nursing vs MLS Curriculum Analysis**

Nursing	MLS
<b>CHEMISTRY</b>	
CHEM 1083 Principles of Chemistry 1 with lab 4	CHEM 1110 General Chemistry I 3
	CHEM 1115 General Chemistry I Laboratory 1
	CHEM 1120 General Chemistry II 3
	CHEM 1125 General Chemistry II Laboratory 1
	CHEM 2410 Principles of Organic Chemistry I 3
	CHEM 2415 Principles of Organic Chemistry I Lab 1
	CHEM 2420 Principles of Organic Chemistry II 3
	CHEM 2425 Principles of Organic Chemistry II Lab 1
	BLS 4110 Medical Chemistry I 3
	BLS 4120 Medical Chemistry II 2
	MLS 4700 Clinical Chemistry Routine Testing Prac 2
	MLS 4710 Clinical Chemistry Routine Testing 1
	MLS 4720 Clinical Chemistry Special Testing Prac 1
	MLS 4730 Clinical Chemistry Special Testing 1
4 CH	26 CH
<b>BIOLOGY</b>	
NONE	BIOL 1040 Principles of Biology I 4
	BIOL 1060 Principles of Biology II 4
	BIOL 3020 Cell Biochemistry & Molecular Biology 3
0 CH	12 CH
<b>MICROBIOLOGY</b>	
BLS 2100 Microbiology 3	BLS 4510 Medical Microbiology 4
	MLS 4520 Medical Bacteriology 2
	MLS 4550 Medical Bacteriology Laboratory 2
	MLS 4530 Medical Mycology 1
	MLS 4560 Medical Mycology Laboratory 0.5
	MLS 4540 Medical Parasitology 1
	MLS 4570 Medical Parasitology Laboratory 0.5
	MLS 4800 Clinical Microbiology Practicum 3
	MLS 4810 Clinical Microbiology 2
3 CH	16 CH
<b>MATH</b>	
STAT 1100 Intro to Statistics 3	MATH 1400 Pre-Calculus 3
	MATH 1300 Elementary Stats w/Computers 3
3 CH	9 CH
<b>OTHER SCIENCE</b>	
PSY 1010 General Psychology 3	
Social Science 3	Social Science 3
ANAT 1000: Human Anatomy 3	
PPY 2545: Human Physiology 4	PPY 2540 Human Physiology 4
13 CH	7 CH
<b>TOTAL SCIENCE = 23</b>	<b>TOTAL SCIENCE = 70</b>

The following nursing and clinical laboratory science programs have the same science comparison:

**Texas State University**  
**Nursing vs MLS Curriculum Analysis**

Nursing	MLS
<b>CHEMISTRY</b>	
CHEM 1341 General Chemistry 1 no lab 3	CHEM 1341 General Chemistry I 3
	CHEM 1141 General Chemistry I Laboratory 1
	CHEM 1342 General Chemistry II 3
	CHEM 1142 General Chemistry II Laboratory 1
	CHEM 2341 Organic Chemistry I 3
	CHEM 2141 Organic Chemistry I Lab 1
	CLS 3305 Intro to Clin Lab Techniques 3
	CLS 3410 Clinical Chemistry plus lab 4
	CLS 4370 Clinical Chemistry II 3
	CLS 3323 Clin Microscopy & Body Fluids 3
3 CH	25 CH
<b>BIOLOGY</b>	
BIO 1330 Functional Biology 3	BIO 1330 & 1130 Functional Biology plus lab 4
BIO 2451 Anatomy & Physiology I 4	BIO 1331 & 1131 Organismal Biology plus lab 4
BIO 2452 Anatomy & Physiology II 4	CLS 4341 Molecular Diagnostics plus lab 4
11 CH	12 CH
<b>MICROBIOLOGY</b>	
BIO 2440 Microbiology 4	CLS 4440 Clinical Microbiology I 4
	CLS 4340 Clinical Microbiology II 3
	CLS 3326 Medical Parasitology 3
	Clinical Microbiology Practicum
4 CH	10 CH
<b>MATH</b>	
MATH 1315 College Algebra 3	MATH 2321 Calculus for Life Science 3
	MATH 2328 Elementary Statistics 3
3 CH	6 CH
<b>OTHER SCIENCE</b>	
PSY 1300 General Psychology 3	CLS 3424 Clinical Immunology 4
	Social and Behavioral Science 3
	CLS 3412 Hematology/Coagulation I 4
	CLS 4318 Hematology II 3
	CLS 4460 Immunohematology 4
	CLS 4361 Research Methods 3
	CLS 4463 Clin Lab Practice I 4
	CLS 4364 Clin Lab Practice II 3
	CLS 3305 Intro to Clin Lab Techniques and Practice 3
3 CH	31 CH
<b>TOTAL SCIENCE = 24</b>	<b>TOTAL SCIENCE = 84</b>

**Trident Technical College**  
**Nursing vs MLT Curriculum Analysis**

Nursing	MLS
<b>CHEMISTRY</b>	
NONE	CHM 110 College Chemistry I 3
	MLT 106 Urinalysis and Body Fluids 2
	MLT 131 Clinical Chemistry 3
0 CH	8 CH
<b>BIOLOGY</b>	
BIO 210 Anatomy & Physiology I 4	BIO 112 Anatomy & Physiology 4
BIO 211 Anatomy & Physiology II 4	
8 CH	4 CH
<b>MICROBIOLOGY</b>	
BIO 225 Microbiology 4	BLS 4510 Medical Microbiology 4
	MLS 4520 Medical Bacteriology 2
	MLS 4550 Medical Bacteriology Laboratory 2
	MLS 4530 Medical Mycology 1
	MLS 4560 Medical Mycology Laboratory 0.5
	MLS 4540 Medical Parasitology 1
	MLS 4570 Medical Parasitology Laboratory 0.5
	MLS 4800 Clinical Microbiology Practicum 3
	MLS 4810 Clinical Microbiology 2
4 CH	16 CH
<b>MATH</b>	
MAT 110 College Algebra 3	MAT 110 College Algebra 3
3 CH	3 CH
<b>OTHER SCIENCE</b>	
PSY 201 General Psychology 3	AHS 142 Phlebotomy 2
Social Science 3	Social Science 3
NUR 161 Basic Concepts of Pharmacology 2	MLT 102 Medical Lab Fundamentals
	MLT 109-111 Hematology I and II 4
NUR 05 Pharmacology for Nurses 1	MLT 219 Clinical Instrumentation 3
	MLT 105 Medical Microbiology 4
	MLT 112 Intro to Parasitology 2
	MLT 115 Immunology 3
	MLT 120 Immunohematology 4
	MLT 206-207 Advanced Microbiology I & II 4
	MLT 211-212 Advanced Hematology I & II 4
9 CH	33 CH
<b>TOTAL SCIENCE = 24</b>	<b>TOTAL SCIENCE = 64</b>