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CONSULT DEGREE WORKS OR THE UNDERGRADUATE CATALOG FOR THE MOST ACCURATE INFORMATION ON DEGREE REQUIREMENTS

Checklist for B.S. in Biomedical Science, option in Medical Laboratory Science

May 2017

University Discovery and Inquiry Requirements

Course	*Semester*	*Credits*	*Grade*
Writing Skills **ENGL 401 (WI) First-Year Writing**		4	
Quant. Reasoning **Statistics**		4	
Biological Science **BMS 507 Human A & P or BIOL 411 Intro. Biology: Molecular and Cellular**		4	
Physical Science **CHEM 403 General Chemistry I**	Fall	4	
Environment, Technology & Society **BMS 650 Molecular Diagnostics**	Fall	4	
Fine & Performing Arts			
Historical Perspectives			
Humanities			
Social Science			
World Cultures			
Capstone [1]			
Inquiry course **Any Discovery inquiry course such as BIOL 411 - Introductory Biology:Molecular & Cellular**			

University Writing Intensive Requirements

Course	*Semester*	*Credits*	*Grade*
ENGL 401 First-Year Writing		4	
Course in major **BMS 610, BMS 716, BMS 718, BMS 730 or BMS 750**			
600/700-level course			
Elective course			

Foundation Courses

Course	*Semester*	*Credits*	*Grade*
CHEM 403 - General Chemistry I	Fall	4	
CHEM 404 - General Chemistry II	Spring	4	
CHEM 545/546 - Organic Chemistry/Lab [2]		3 /2	
Statistics (BIOL 528, PSYC 402, SOC 502, or MATH 439)		4	

Bioscience Core Courses

Course	*Semester*	*Credits*	*Grade*
BMS 501 Microbes in Human Disease or BMS 503 and 504 General Microbiology and Laboratory		4 or 3/2	
BMS 507 Human Anatomy and Physiology I or BIOL 411 Intro. Biology: Molecular and Cellular		4	
BMS 508 Human Anatomy and Physiology II	Spring	4	
BMCB 658/659 General Biochemistry/Lab		3/2	
GEN 604 Principles of Genetics		4	

BMS-MLS Core Courses

Course	*Semester*	*Credits*	*Grade*
BMS 401 Professional Perspectives in Biomedical Sciences (required for first-year students only)	Fall	1	
BMS 560/561 Body Fluids/Lab	Spring	3/1	
BMS 602/603 Pathogenic Microbiology/Lab	Spring	3/2	
BMS 642/643 Clinical Immunology and Serology/ Clinical Serology Lab	Spring	3/1	
BMS 650 Molecular Diagnostics	Fall/Spring	4	
BMS 720 Mycology, Parasitology, & Virology [3,4]	Spring	3	

Major Elective Courses - five courses total [4]

	Semester	*Credits*	*Grade*
TWO courses with a lab			
THREE Major Electives (ANY of the courses on the next page)			

A total of 128 credits needed for graduation. A grade of C- or better required in all BMS-MLS Core Courses.

[1] In addition to specific pre-approved courses (BMS 635, 716, 719, 740, 750, 751, 752, 753, 754, 761, 762, 763, 764), Capstone experiences may be research projects (BMS 795, BMS 799, BMS 799H or INCO 790; 4-credit minimum), teaching assistant experience (BMS 790; 2 semesters including lab presentation or instruction), internships, or other approved experiences. Capstone experiences usually occur in the final year but may be completed during the previous summer if the student has completed 90 credits. (see https://www.unh.edu/discovery/discovery-program-capstone-experience)

[2] Students applying to health profession schools need a full year of English, a full year of Introductory Biology, and a full year of Organic Chemistry. ENGL 502 or 503 should be taken in addition to ENGL 401; CHEM 651/653 and CHEM 652/654 should be taken in place of CHEM 545/546. See http://www.unh.edu/premed-advising/curric.htm

[3] Required for students interested in MLS clinical generalist internship

[4] If BMS 721- Mycology, Parasitology, and Virology Laboratory is taken concurrently with BMS 720 MPV, it may count as one of the two required laboratory electives. However, BMS 721 does not count as a Major Elective course, so five Major Electives must still be completed, at least one of which includes a lab component plus four additional Major Electives with or without lab.

Major Elective courses for Medical Laboratory Science

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Major Electives with a Laboratory component (PICK TWO)

Course number	Course Name	Semester	Credits
BMS 623	Histology:Micro.Cell Structure & Function	Spring	4
BMS 644/645	Clinical Hematology & Clinical Hematology Lab[3]	Fall	3/2
BMS 656/657	Immunohematology & Blood Banking Lab[3]	Fall	3/1
BMS 658/659	Medical Biochemistry & Clinical Chemistry Lab[3]	Spring	3/2
BMS 705/715	Immunology & Immunology Lab	Fall	3/2
BMS 706/708	Virology & Virology Lab	Spring	3/2
BMS 721	Mycology, Parasitology, and Virology Lab[3]	Spring	2
BMS 740	Human Microbiome	Spring	4

Major Electives (PICK THREE)[3]

Course number	Course Name	Semester	Credits	Attributes [4]
BMS 610	Biomedical Lab Management[3]	Fall	4	WI
BMS 623	Histology: Microscopic Cellular Structure and Function	Spring	4	L
BMS 635	Preceptorial in Prehospital Care	Fall & Spring	2	C
BMS 640	Phlebotomy Theory[3]	Spring	2	
BMS 641	Phlebotomy Clinical Internship[3]	All	1 or 2	
BMS 644	Clinical Hematology	Fall	3	
BMS 644/645	Clinical Hematology & Clinical Hematology Lab[3]	Fall	3/2	L
BMS 644/646	Clinical Hematology & Clinical Hemostasis	Fall	3/1	
BMS 656/657	Immunohematology & Blood Banking Lab[3]	Fall	3/1	L
BMS 658/659	Medical Biochemistry/Clinical Chemistry Lab[3]	Spring	3/2	L
BMS 702	Endocrinology	Fall	4	
BMS 703	Infectious Disease and Health	Fall	4	
BMS 704	Pathologic Basis of Disease	Spring	4	
BMS 705/715	Immunology & Immunology Lab	Fall	3/2	L
BMS 706/708	Virology & Virology Lab	Spring	3/2	L
BMS 711	Toxicology	Spring	4	
BMS 712	Grand Rounds	Fall & Spring	2	
BMS 716	Public Health:Food & Waterborne Diseases	Fall	4	WI,C
BMS 718	Mammalian Physiology	Spring	4	WI
BMS 719	Host-Microbe Interactions	Fall	4	C
BMS 721	Mycology, Parasitology, and Virology Lab[3]	Spring	2	L
BMS 730	Ethical Issues in Biomedical Science	Spring	4	WI
BMS 740	Human Microbiome	Spring	4	L,C
BMS 750	Case Studies	Fall	variable	WI,C
BMCB 753	Cell Culture	Fall	5	L
BMCB 760	Pharmacology	Spring	4	
BMCB 763	Biochemistry of Cancer	Fall	4	
GEN 706	Human Genetics	Spring	4	
BMS 751	Advanced Clinical Microbiology Internship[3]		5	C
BMS 752	Advanced Hematology Internship[3]		5	C
BMS 753	Advanced Immunohematology Internship[3]		5	C
BMS 754	Advanced Clinical Chemistry Internship[3]		5	C
BMS 761	Clinical Microbiology Internship		20	C
BMS 762	Clinical Hematology Internship		20	C
BMS 763	Clinical Immunohematology Internship		20	C
BMS 764	Clinical Chemistry Internship		20	C
BMS 790	Undergraduate Teaching Experience[5]		variable	C
BMS 795	Investigations		variable	C
BMS 796	Biomedical Research Internship		variable	C
BMS 799	Senior Thesis		variable	C
BMS 799H	Honors Senior Thesis		variable	C

[3] Required for students interested in MLS clinical generalist internship

[4] **WI = writing intensive; L = laboratory course; C = capstone**

[5] To be a **capstone,** student must TA for 2 semesters and participate in lab presentation/instruction.

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SAMPLE Course Sequence for Medical Laboratory Science option in Biomedical Science

NOTE: This is just ONE way that the requirements for the BMS:MLS degree can be arranged in order to complete the degree in 8 semesters.

	Fall	Spring
1st Year	Biomedical Science BIOL 507 - Anatomy and Physiology I ENGL 401 - First-Year Writing CHEM 403 - General Chemistry I Discovery Course [6]	BMS 508 - Anatomy and Physiology II Statistics [7] CHEM 404 - General Chemistry II Discovery Course [6] (Inquiry and/or WI)
2nd Year	BMS 503 & 504 - General Microbiology & Lab GEN 604 - Principles of Genetics Discovery Course [6] Discovery Course [6] (Inquiry and/or WI)	BMS 602/603 - Pathogenic Microbiology/Lab BMS 560/561 - Body Fluids/Lab CHEM 545/546 - Organic Chemistry/Lab Major Elective (*BMS 640/641 Phlebotomy Theory/ Internship)* [3]
3rd Year	Major Elective with lab - (*BMS 644/645 - Clinical Hematology/Lab*[3]*)* BMCB 658/659 - General Biochemistry/Lab BMS 650 - Molecular Diagnostics	BMS 642/643 - Clin. Immunology & Serology/Lab BMS 720 - Mycology, Parasitology & Virology *(BMS 721 MPV lab*[3]*)* Major elective with lab or 2 non-lab major elect. - *(BMS 658/659 - Medical Biochemistry/Lab*[3]*)*
4th Year	Elective or Major elective with lab (if necessary) (*BMS 656/657- Immunohematology/Lab*[3]*)* Major Elective WI - (*BMS 610 - Lab Management*[3]*)* Major Elective capstone (*BMS 750 - Case Studies*[3]*)* Discovery Course [6]	Elective Elective Elective Elective or BMS 751-754 Clinical Internship[3]

[3] Required for students interested in MLS clinical generalist internship

[6] Discovery categories to select from: Historical Perspectives (HP), World Cultures (WC), Social Science (SS), Humanities (HUMA), Fine and Performing Arts (FPA)

[7] Statistics courses: BIOL 528, PSYC 402, SOC 502, MATH 439