



Clinical Laboratory Sciences

Bachelor of Applied Science | Code: P9211 | 130 credits

CIP (1105100002)

Effective Term: Fall 2024 (2247)

The Bachelor of Applied Science (B.A.S.) in Clinical Laboratory Sciences is designed to accommodate the unique demands for entry and advancement within the health science industry. Clinical Laboratory Scientist work with pathologists and other laboratory professionals in performing and analyzing laboratory testing used for diagnosis, treatment, and prevention of disease. Clinical Laboratory Sciences program graduates are eligible for certification by the American Association of Bioanalysts (AAB), American Society for Clinical Pathology (ASCP), and American Medical Technologist (AMT). Upon completion of the program and the attainment of certification and license, clinical laboratory scientists are employed in a variety of health-care settings as laboratory technologists with the opportunity of upward mobility to supervisory and management positions.

GENERAL EDUCATION REQUIREMENTS – 36 Credits Required (MET WITH A GRADE of “C” OR HIGHER)

Communications – 6 Credits Required

ENC 1101	English Composition 1	3	
ENC 1102	English Composition 2	3	Prerequisite: ENC 1101

Oral Communication – 3 Credits Required

Select 3 Credits from the following

ENC 2300	Advanced Composition & Communication	3	Prerequisites: ENC 1101, ENC 1102
LIT 2480	Issues in Literature & Culture	3	Prerequisite: ENC 1102
SPC 1017	Introduction to Communications	3	
SPC 2608	Introduction to Public Speaking	3	

Humanities – 6 Credits Required

Group A – Select 3 Credits from the following (State Core):

ARH 1000	Art Appreciation	3	
HUM 1020	Humanities	3	
LIT 2000	Introduction to Literature	3	
MUL 1010	Music Appreciation	3	
PHI 2010	Introduction to Philosophy	3	
THE 2000	Theater Appreciation	3	

AND

Group B – Select 3 Credits from the following (MDC Core):

ARC 2701	History of Architecture 1	3	
ARC 2702	History of Architecture 2	3	
ARH 1000	Art Appreciation	3	
ARH 2050	Art History 1	3	Prerequisite: ARH 2050
ARH 2051	Art History 2	3	
ARH 2740	Cinema Appreciation	3	
DAN 2100	Dance Appreciation	3	
DAN 2130	Dance History 1	3	
HUM 1020	Humanities	3	
IND 1100	History of Interiors 1	3	
IND 1130	History of Interiors 2	3	
LIT 2000	Introduction to Literature	3	
LIT 2120	A Survey of World Literature	3	Prerequisite: ENC 1101 or ENC 1102 or Equivalent
MUH 2111	Survey of Music History 1	3	
MUH 2112	Survey of Music History 2	3	Prerequisite: MUH 2112

MUL 1010	Music Appreciation	3
MUL 2380	Jazz and Popular Music in America	3
PHI 2010	Introduction to Philosophy	3
PHI 2600	Introduction to Ethics	3
THE 2000	Theater Appreciation	3

Behavioral and Social Science – 6 Credits Required

Group A – Select 3 Credits from the following:

Must take 3.0 credits from the following group.

AMH 2010	History of the US to 1877	3
AMH 2020	History of the US Since 1877	3
ANT 2000	Introduction to Anthropology	3
ECO 2013	Principles of Economics (Macro)	3
POS 2041	American Federal Government	3
PSY 2012	Introduction to Psychology	3

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Must take 3.0 credits from the following group.

AMH 2010	History of the US to 1877	3
AMH 2020	History of the US Since 1877	3
ANT 2000	Introduction to Anthropology	3
ANT 2410	Introduction to Cultural Anthropology	3
CLP 1006	Psychology of Personal Effectiveness	3
DEP 2000	Human Growth and Development	3
ECO 2013	Principles of Economics (Macro)	3
ISS 1120	The Social Environment	3
ISS 1161	The Individual in Society	3
POS 2041	American Federal Government	3
PSY 2012	Introduction to Psychology	3
SYG 2000	Introduction to Sociology	3
WOH 2012	History of World Civilization to 1789	3
WOH 2022	History of World Civilization From 1789	3

Natural Science – 3 Credits Required (State Core)

Group A – Select 3 Credits from the following (Life Sciences):

BSC 2010	Principles of Biology	3
BSC 2085	Human Anatomy & Physiology	3

OR

Group B - Select 3 Credits from the following (Physical Sciences):

CHM 1020	General Education Chemistry	3
CHM 1045	General Chemistry & Qualitative Analysis	3
PHY 1020	Fundamentals of Physics	3
PHY 2048	Physics with Calculus 1	3
PHY 2053	Physics without Calculus 1	3

NOTE: If a Physical Science course is selected from the State Core, then a Biological Science course must be selected from the MDC Core. If a Life Science course is selected from the State Core, then a Physical Science course must be selected from the MDC Core. In addition, students in the health sciences are recommended to complete CHM 1033/1033L prior to registering for BSC 2085/2085L. Students in the biotechnology pathway must take BSC 2426/2426L prior to admission to the BS in Biological Sciences degree.

Natural Science – 3 Credits Required (MDC Core)

Group A – Select 3 Credits from the following (Life Sciences):

BSC 2085	Human Anatomy & Physiology 1	3
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Corequisite: BSC 2085L

OR

Group B - Select 3 Credits from the following (Physical Sciences):

CHM 1033	Chemistry for Health Sciences	3
CHM 1045	General Chemistry and Qualitative Analysis	3

Pre/Corequisite: CHM 1033L, MAT 1033
Pre-Req: CHM 1025 or a passing score on the CART exam, MAC 1105;
Co-requisite: CHM 1045L

* Any course with the following prefix excluding labs.

NOTE: If a Physical Science course is selected from the State Core, then a Biological Science course must be selected from the MDC Core. If a Life Science course is selected from the State Core, then a Physical Science course must be selected from the MDC Core. In addition, students in the health sciences are recommended to complete CHM 1033/1033L prior to registering for BSC 2085/2085L. Students in the biotechnology pathway must take BSC 2426/2426L prior to admission to the BS in Biological Sciences degree.

Mathematics – 6 Credits Required

Group A Must take 3 credits from the following group (State Core):

MAC 1105	College Algebra	3	Prerequisite: MAT 1033
MAC 2311	Calculus & Analytical Geometry	5	Prerequisites MAC 1106 and MAC 1114, or MAC 1114 and MAC 1140, or MAC 1147
MGF 1130	Mathematical Thinking	3	Student must meet the Developmental Education mathematics requirements in State Rule 6A-10.0315 (by course, placement score, or eligible exemption)
STA 2023	Statistical Methods	3	Pre-Req: MAT 1033 or MGF 1131

AND

Group B Must take 3 credits from the following group (MDC Core):

MAC*		
MAD 2104	Discrete Mathematics	3
MAP*		
MAS*		
MGF*		
QMB 2100	Basic Business Statistics	3
STA 2023	Statistical Methods	3

General Education Elective – 3 Credits Required (MET WITH A “C” LETTER GRADE OR HIGHER)

BSC 1005	General Education Biology	3
BSC 1005L	General Education Biology Laboratory	1
BSC 1030	Social Issues in Biology	3
BSC 1050	Biology and Environment	3
BSC 1084	Functional Human Anatomy	3
BSC 1949	Co-op Work Experience 1: BIO	3
BSC 2010	Principles of Biology	3
BSC 2010	Principles of Biology Laboratory	2
BSC 2011	Principles of Biology 2	3
BSC 2011L	Principles of Biology Laboratory 2	2
BSC 2020	Human Biology: Fundamentals of Anatomy/Physiology	3
BSC 2085	Human Anatomy and Physiology 1	3
BSC 2085L	Human Anatomy and Physiology 1 Laboratory	1
BSC 2086	Human Anatomy and Physiology 2	3
BSC 2086L	Human Anatomy and Physiology 2 Laboratory	1
BSC 2250	Natural History of South Florida	3
BSC 2423C	Methods and Applications of Cell Culture and Protein Biotechnology	3
BSC 2426	Biotechnology Methods and Applications 1	3
BSC 2426L	Biotechnology Methods and Applications 1 Lab	2
BSC 2427	Biotechnology Methods and Applications 2	3
BSC 2427L	Biotechnology Methods and Applications 2 Lab	2
BSC 2943L	Bioscience Internship	3-6
BSC 2949	Co-op Work Experience 2: BSC	3
CHM 1020	General Education Chemistry	3
CHM 1020L	General Education Chemistry Laboratory	1
CHM 1033	Chemistry for Health Sciences	3
CHM 1033L	Chemistry for Health Sciences Laboratory	1
CHM 1045	General Chemistry and Qualitative Analysis	3

CHM 1045L	General Chemistry and Qualitative Analysis Lab	2
CHM 1046	General Chemistry and Qualitative Analysis	3
CHM 1046L	General Chemistry and Qualitative Analysis Lab	2
CHM 1941	Principles & Techniques of Peer Tutoring in Chemistry	1
CHM 1949	Co-op Work Experience 1: CHM	3
CHM 2124C	Survey of Quantitative Analysis	4
CHM 2200	Survey of Organic Chemistry	3
CHM 2200L	Survey of Organic Chemistry Laboratory	1
CHM 2210	Organic Chemistry 1	3
CHM 2210L	Organic Chemistry 1 Laboratory	2
CHM 2211	Organic Chemistry 2	3
CHM 2211L	Organic Chemistry 2 Laboratory	2
CHM 2949	Co-op Work Experience 2: CHM	3
MCB 2010	Microbiology	3
MCB 2010L	Microbiology Laboratory	2
PHY 1004	Physics with Applications 1	3
PHY 1004	Physics with Applications 1 Lab	1
PHY 1005	Physics with Applications 2	3
PHY 1005	Physics with Applications 2 Lab	1
PHY 1020	General Education Physics	3
PHY 1025	Basic Physics	3
PHY 2048	Physics with Calculus 1	3
PHY 2048L	Physics with Calculus 1 Laboratory	1
PHY 2049	Physics with Calculus 2	3
PHY 2049L	Physics with Calculus 2 Laboratory	1
PHY 2053	Physics (without Calculus) 1	3
PHY 2053L	Physics (without Calculus) 1 Lab	1
PHY 2054	Physics (without Calculus) 2	3
PHY 2054L	Physics (without Calculus) 2 Lab	1

LOWER DIVISION ELECTIVES – 24 Credits Required (MET WITH A “C” LETTER GRADE OR HIGHER)

Group A – Must take 9 Credits from the following group

BSC 1005	General Education Biology	3
BSC 1005L	General Education Biology Laboratory	1
BSC 1030	Social Issues in Biology	3
BSC 1050	Biology and Environment	3
BSC 1084	Functional Human Anatomy	3
BSC 1949	Co-op Work Experience 1: BIO	3
BSC 2010	Principles of Biology	3
BSC 2010	Principles of Biology Laboratory	2
BSC 2011	Principles of Biology 2	3
BSC 2011L	Principles of Biology Laboratory 2	2
BSC 2020	Human Biology: Fundamentals of Anatomy/Physiology	3
BSC 2085	Human Anatomy and Physiology 1	3
BSC 2085L	Human Anatomy and Physiology 1 Laboratory	1
BSC 2086	Human Anatomy and Physiology 2	3
BSC 2086L	Human Anatomy and Physiology 2 Laboratory	1
BSC 2250	Natural History of South Florida	3
BSC 2423C	Methods and Applications of Cell Culture and Protein Biotechnology	3
BSC 2426	Biotechnology Methods and Applications 1	3
BSC 2426L	Biotechnology Methods and Applications 1 Lab	2
BSC 2427	Biotechnology Methods and Applications 2	3
BSC 2427L	Biotechnology Methods and Applications 2 Lab	2

BSC 2943L	Bioscience Internship	3-6
BSC 2949	Co-op Work Experience 2: BSC	3

AND

Group B – Must take 9 credits from the following group

CHM 1020	General Education Chemistry	3
CHM 1020L	General Education Chemistry Laboratory	1
CHM 1033	Chemistry for Health Sciences	3
CHM 1033L	Chemistry for Health Sciences Laboratory	1
CHM 1045	General Chemistry and Qualitative Analysis	3
CHM 1045L	General Chemistry and Qualitative Analysis Lab	2
CHM 1046	General Chemistry and Qualitative Analysis	3
CHM 1046L	General Chemistry and Qualitative Analysis Lab	2
CHM 1941	Principles & Techniques of Peer Tutoring in Chemistry	1
CHM 1949	Co-op Work Experience 1: CHM	3
CHM 2124C	Survey of Quantitative Analysis	4
CHM 2200	Survey of Organic Chemistry	3
CHM 2200L	Survey of Organic Chemistry Laboratory	1
CHM 2210	Organic Chemistry 1	3
CHM 2210L	Organic Chemistry 1 Laboratory	2
CHM 2211	Organic Chemistry 2	3
CHM 2211L	Organic Chemistry 2 Laboratory	2
CHM 2949	Co-op Work Experience 2: CHM	3

AND

Group C – Must take 6 credits from the following group

ACG 2001	AST*	COP 2805	FIL 1030	GRA 2191C	HUS*
ACG 2001L	BOT*	CPO*	FIL 1055	HAI*	IDS 1044
ACG 2011	BSC*	CRW*	FIL 1100	HBR*	IDS 1153
ACG 2011L	BUL 2130	CTE 1401	FIL 1360	HFT 1000	IND 1020
ACG 2021	BUL 2241	DAA*	FIL 1420C	HFT 1210	IND 1100
ACG 2021L	BUL 2242	DAN*	FIL 1431C	HFT 1220	IND 1130
ACG 2031	CCJ*	DEP*	FIL 2130	HFT 1300	IND 1200
ACG 2071	CGS 1021	EAP5*	FIL 2515C	HFT 1454	IND 2210
ACG 2071L	CGS 1060C	EAP6*	FIL 2552C	HFT 2223	IND 2220
ACG 2100	CGS 1145	ECO*	FIL 2553C	HFT 2410	INP*
ACG 2110	CGS 2092	EDF*	FIL 2560C	HFT 2421	INR*
ACG 2170	CGS 2405	EDG*	FIL 2572C	HFT 2500	IPM 2112
ACG 2360	CGS 2423	EEC*	FIL 2611	HFT 2501	ISC*
ACG 2450	CHI*	EEL*	FIN 2100	HFT 2750	ISS 1120
ACG 2630	CHM*	EEX*	FRE*	HFT 2800	ISS 1161
AFH*	CJC 1000	EGN 2033	FRW*	HLP 1080	ISS 2270
AMH*	CJC 1162	EGS 1001C	GEA*	HLP 1081	ITA*
AML*	CJD*	EGS 1010	GEB 1011	HLP 1083	JOU*
ANT*	CJL 2062	EGS 1111C	GEB 2112	HLP 1087	JPN*
ARC*	CJT*	EGS 2311	GEB 2350	HOS 1010	JST*
ARH*	CLP*	EME*	GEO*	HSC 1400	LAH*
ART*	COP 1170	ENC*	GER*	HSC 1121	LIN*
ASL 1140C	COP 2004	ENG*	GLY*	HSC 2100	LIS*
ASL 1150C	COP 1220	ENL*	GRA 1111C	HSC 2400	LIT*
ASL 2160C	COP 2171	EUH*	GRA 2117C	HUM*	MAC*
ASL 2200C	COP 2800	EVR 1001	GRA 2190C	HUN*	MAD*
MAN 2021	MTG*	MVV*	PGY 2475	POS*	SOW*
MAN 2300	MUC*	MVW*	PGY 2800C	POT*	SPA*
MAN 2604	MUE*	OCB*	PHI*	PSB*	SPC*
MAP*	MUH*	OCE*	PHM*	PSC*	SPN*
MAR 1011	MUL*	OST 2335	PHY*	PSY*	SPW*
MAR 1720	MUM 2704	PAD*	PLA 2003	PUR*	SUR 1001C
MAR 2150	MUN*	PCB*	PLA 2104	QMB*	STA*
MAS*	MUO*	PCO*	PLA 2114	REL*	SYG*

MAT 1033	MUS*	PEP*	PLA 2203	RTV 1100	THE*
MCB*	MUT*	PET*	PLA 2223	RUS*	TPA*
MET*	MVB*	PGY 2110C	PLA 2273	SLS 1106	TPP*
MGF*	MVJ*	PGY 2111C	PLA 2303	SLS 1125	VIC*
MLT*	MVK*	PGY 2112C	PLA 2600	SLS 1401	WHO*
MMC*	MVO*	PGY 2401C	PLA 2763	SLS 1505	ZOO*
MNA 1345	MVP*	PGY 2410C	PLA 2800	SLS 1510	
MNA 2120	MVS*	PGY 2470C	POR*	SOP*	

MEDICAL LABORATORY TECHNOLOGY COURSES (0 credits)

Group A – Clinical Laboratory Sciences

MLT 1040L	Introduction to Medical Laboratory Technology	1
MLT 1210C	Clinical Urinalysis with Lab	2
MLT 1300	Clinical Hematology	2
MLT 1300L	Clinical Hematology Laboratory	2
MLT 1752	Quality Control Laboratory Mathematics	2
MLT 1500	Clinical Immunology/Serology	2
MLT 1500L	Clinical Immunology/Serology Laboratory	1
MLT 1610	Clinical Chemistry 1	2
MLT 1610L	Clinical Chemistry 1 Laboratory	2
MLT 2440	Clinical Microbiology 1	1
MLT 2440L	Clinical Microbiology Lab 1	1
MLT 1330	Clinical Coagulation	1
MLT 1330L	Clinical Coagulation Laboratory	1
MLT 2525	Immunohematology	2
MLT 2525L	Immunohematology Laboratory	2
MLT 2403	Clinical Microbiology 2	2
MLT 2403L	Clinical Microbiology Lab 2	2
MLT 2620	Clinical Chemistry 2	2
MLT 2620L	Clinical Chemistry 2 Laboratory	1
MLT 2624L	Special Techniques in Clinical Chemistry	2
MLT 2807L	Hospital Practicum: Immunohematology	3
MLT 2809L	Hospital Practicum: Hematology	3
MLT 2810L	Hospital Practicum: Chemistry	3
MLT 2811L	Hospital Practicum: Microbiology	3
MLT 2930	Medical Laboratory Technology Seminar	2

MEDICAL LABORATORY TECHNOLOGY VALIDATION - 27 Credits Required

MLS 3997 - Validated Medical Laboratory Technology Course	27
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UPPER DIVISION REQUIREMENTS – 19 Credits Required

HSC 3057	Research Methods and Issues in Health Science	3
HSC 3655	Theoretical Foundations of Health Care Ethics	3
HSC 3701	Leadership and Management in Healthcare	3
MLS 4193	Clinical Molecular Diagnostics	3
MLS 4621	Clinical Biochemistry	4
MLS 4705	Laboratory Operations and Management	3

DISCIPLINE CONTENT CORE - 21 Credits Required

Group A – Clinical Laboratory Sciences

MLS 4221	Clinical Urinalysis	3
MLS 4306	Clinical Hematology	3
MLS 4335	Clinical Hemostasis	3
MLS 4461	Clinical Diagnostic Microbiology	3
MLS 4506	Clinical Immunology	3
MLS 4552	Clinical Immunohematology	3
MLS 4630	Clinical Chemistry	3

MEDICAL LABORATORY SCIENCES SPECIAL TOPICS – 3 Credits Required

MLS 3150	Special Topics in Medical Laboratory Scienc
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