

MICHIGAN STATE UNIVERSITY

October 20, 2023

MEMORANDUM

TO: Dr. Mark Largent, Vice Provost for Undergraduate Education and Dean
of Undergraduate Studies

FROM: Joy Speas, University Curriculum Administrator

RE: Request to Change the Admission Requirement for the Bachelor of
Science Degree in Medical Laboratory Science

For Transmittal to the University Committee on Undergraduate
Education (UCUE)

The request referenced above is being sent to you for action by the University
Committee on Undergraduate Education (UCUE).

UCUE Response Requested:

Please ask the UCUE to consider the request referenced above. Please mail the
related materials referenced under the heading Attachments at the end of this
memorandum to the members of the UCUE.

The academic program and course requests referenced above will be included on the
agenda for the November 9, 2023 meeting of Subcommittee A, University Committee on
Curriculum (UCC). Requests that are approved by Subcommittee A on November 9 will
be before the Full Committee, UCC, for action on November 30, 2023. Requests that
are approved by the Full Committee on November 30 will be included in the January 23,
2024, Report of the UCC to the Faculty Senate.

If you have any questions about this memorandum or the attached materials, please
email me at jlspeas@msu.edu.

Thank you for your help.

Attachments:

1. Entry for the November 9, 2023 meeting of Subcommittee A.
2. Request for Changes in an Academic Program forms dated September
21, 2023: Bachelor of Science Degree in Medical Laboratory Science
and attachments.
3. Draft, of the work copy for the Academic Programs section of the University
catalog: Medical Laboratory Science, Bachelor of Science, pages 1 - 3 .

s:\share\ucuemlsbs



**University
Curriculum and
Catalog**

Hannah Admin. Building
426 Auditorium Road
Suite 430
East Lansing, MI 48824

517-355-8420
Fax: 517-355-9601

COLLEGE OF NATURAL SCIENCE

1. Request to change the requirements for the **Bachelor of Science** degree in **Medical Laboratory Science** in the Biomedical Laboratory Diagnostics Program. The University Committee on Undergraduate Education (UCUE) will consider this request at its November 9, 2023 meeting.
 - a. Under the heading **Admission** make the following changes:
 - (1) In paragraph one, delete the last sentence:

Students are admitted as Biomedical Laboratory Science major until the application process for Medical Laboratory Science is completed.
 - (2) In paragraph two, replace item 3. with the following:
 3. Have completed BMB 401, MMG 365, MMG 365L, BLD 324, and BLD 434.
 - b. Under the heading **Academic Standards** replace the first sentence with the following:

To progress to the clinical phase of the curriculum, students must earn a grade-point average of 2.50 or higher in MMG 465, MMG 465L, BLD 402, BLD 424, BLD 424L, BLD 430, BLD 435, and BLD 435L.

Effective Spring 2024.



View a Program	
Joy Speas, Office of the Registrar	
Wednesday, 10/11/2023	
Program Name: Medical Laboratory Science Degree: BS Sequence Number: 2	Program Request ID: 5022
Effective Dates: Spring 2024 - Open	Status: Interim Initial Action: Change
Requested Date: 5/23/2023 10:29:37 AM	
1. Department/School/College: 10032580 Biomedical Laboratory Diagnostics Program	
2. Name of Program: Medical Laboratory Science	
3. Name of Degree: BS	
4. Type of Program: Major	
5. Effective Start Semester: Prev: Fall 2018 New: Spring 2024	
6. Target student audience for the program: BLS students	
7. Enrollment: What is the expected enrollment per year: Prev: 25 New: 30 What is the minimum enrollment acceptable: 12	
8. Source of budget for the program: To align academic planning and curricular change, ALL requests for NEW funds must be included in the College's annual planning letter. Provost approval of new funds and the effective date for the new program must align. If funding is not approved, then the program request will not be forwarded to Faculty Senate.	

Internal reallocation

If new funds, was this request included in the College's annual planning letter?
Indicate yes or no. If no, then this is a department or college fund reallocation (If the program is implemented, no additional resources are required.).

9. Projected Costs as compared to other programs in unit:

Same

10. Staff requirement:

How many additional staff will be required: 0

Who will provide the primary instruction. Describe any external linkages(industry, government, etc.):
current BLD faculty

11. Will additional equipment be required:

Approximate cost: 0

Source of funding:

12. Will additional library materials be required:

Approximate cost: 0

Source of funding:

13. Will additional space be required:

Type:

Approximate amount:

14. If the program requirements contain a named concentration, do you wish for the concentration to be noted on the student's transcript?:

No

15. Detailed Description:

College of Natural Science
Biomedical Laboratory Diagnostics Program
Undergraduate Programs
Medical Laboratory Science

The medical laboratory science major is designed to prepare students for certification in medical laboratory science. The program includes courses in ~~the~~ biomedical laboratory sciences, communications, mathematics and statistics, and medical laboratory sciences coupled with clinical practicum experiences. It is designed to prepare graduates for certification and immediate employment in medical laboratories upon graduation by including a six-month hospital laboratory experience. Admission to

this program is limited. Students seeking admission must complete the admission procedure outlined below.

The Bachelor of Science degree program in medical laboratory science has been accredited by the National Accrediting Agency for Clinical Laboratory Sciences, 5600 N. River Road, Suite 720, Rosemont, Illinois 60018; phone (773) 714-8880.

Admission as a Senior

Enrollment in the medical laboratory science major is limited. A new class is admitted at the end of the spring semester of the junior year. Applications for admission are due by the end of fall semester of the junior year. Applicant interviews will be conducted during the spring semester of junior year. Admission decisions for the students admitted to the medical laboratory science major will be made following review of final grades from spring semester of junior year.

To be considered for admission, the applicant must meet the following minimum criteria, in addition to the College of Natural Science admission requirements:

1. Have an overall grade-point average of 2.5 or better including courses taken at other institutions.
2. Have a grade-point average of 2.5 or better in the following courses: BLD 204, BLD 213L, BLD 313, BLD 314L.
3. Have completed BMB 401, ~~MMG 201 or MMG 301~~MMG 365, MMG365L, BLD 324, BLD 434.

Students who present other exceptional credentials but do not meet the grade-point criterion noted above may be considered for admission on a probationary basis.

Applications for admission to the medical laboratory science major are reviewed by a committee of faculty. Factors considered by the Admission Committee in the applicant's review and admission action are (1) academic record including grade-point averages in science and non-science courses, (2) grades for selected preclinical courses, (3) laboratory science exposure, (4) interview, and (5) compositions.

Academic Standards

To progress to the clinical phase of the curriculum, students must earn a grade-point average of 2.5 or higher in MMG 465, MMG 465L, BLD 402, ~~BLD 424, BLD 424L~~, BLD 430, BLD 435, and BLD 435L. Students who do not meet this progression standard will be dismissed from the medical laboratory science degree and can graduate with a Biomedical Laboratory Science degree.

A specific statement of the policies for the clinical phase is provided in the Student Policies for Medical Laboratory Science Students. These policies are provided to all students upon acceptance to the ~~major, but major but~~ may be obtained earlier from the Biomedical Laboratory Diagnostics Program, 354 Farm Lane, Rm N322, East Lansing, MI 48824. Admitted students are responsible for knowing and adhering to these program policies.

Requirements for the Bachelor of Science Degree in Medical Laboratory Science

1. A minimum of 134 credits is required for the Bachelor of Science degree in Medical Laboratory Science.

2. The University requirements for bachelor's degrees as described in the *Undergraduate Education* section of this catalog.

The University's Tier II writing requirement for the Medical Laboratory Science major is met by completing ~~BLD 442W~~BLD 456. That course is referenced in item 4. b. below.

456 is the current requirement

Students who are enrolled in the College of Natural Science may complete the alternative track to Integrative Studies in Biological and Physical Sciences that is described in item 1. under the heading Graduation Requirements in the College statement. Certain courses referenced in requirement 4. below may be used to satisfy the alternative track.

3. The requirements of the College of Natural Science for the Bachelor of Science degree.

The credits earned in certain courses referenced in requirement 4. below may be counted toward College requirements as appropriate.

4. The following requirements for the major:

a. Courses outside Biomedical Laboratory Diagnostics (52 to 59 credits):

(1) All of the following courses (35 credits):

BS	161	Cell and Molecular Biology	3
BS	171	Cell and Molecular Biology Laboratory	2
CEM	141	General Chemistry	4
CEM	161	Chemistry Laboratory I	1
CEM	162	Chemistry Laboratory II	1
CEM	251	Organic Chemistry I	3
CEM	252	Organic Chemistry II	3
CEM	333	Instrumental Methods and Applications	3
MMG	365	Medical Microbiology	3
MMG	365L	Medical Microbiology Laboratory	1
MMG	465	Advanced Medical Microbiology	3
MMG	465L	Advanced Medical Microbiology Laboratory	2
PHY	231	Introductory Physics I	3
PHY	232	Introductory Physics II	3

(2) One of the following courses (3 credits):

MTH	124	Survey of Calculus I	3
MTH	132	Calculus I	3

(3) One of the following courses (3 or 4 credits):

STT	200	Statistical Methods	3
STT	201	Statistical Methods	4

STT	231	Statistics for Scientists	3
STT	351	Probability and Statistics for Engineering	3
STT	421	Statistics I	3
(4)	One of the following, either (a) or (b) (4 or 6 credits):		
(a)	BMB	401 Comprehensive Biochemistry	4
(b)	BMB	461 Advanced Biochemistry I	3
	BMB	462 Advanced Biochemistry II	3
(5)	One of the following, either (a) or (b) (4 or 8 credits):		
(a)	PSL	310 Physiology for Pre-Health Professionals	4
(b)	PSL	431 Human Physiology I	4
	PSL	432 Human Physiology II	4
(6)	One of the following courses (3 credits):		
	MMG	201 Fundamentals of Microbiology	3
	MMG	301 Introductory Microbiology	3
b.	All of the following Biomedical Laboratory Diagnostics courses (47 credits):		
BLD	121	Survive and Thrive Freshman Seminar	1
BLD	204	Mechanisms of Disease	3
BLD	213L	Clinical Laboratory Methods	2
BLD	302	Clinical Chemistry	2
BLD	313	Quality in Clinical Laboratory Practice	3
BLD	314L	Advanced Clinical Laboratory Methods	1
BLD	324	Hematology and Hemostasis	3
BLD	402	Advanced Clinical Chemistry	4
BLD	424	Advanced Hematology and Hemostasis	2
BLD	424L	Advanced Hematology, Hemostasis and Urinalysis Laboratory	1
BLD	430	Molecular Diagnostics	2
BLD	434	Clinical Immunology	3
BLD	435	Immunohematology	2
BLD	435L	Immunohematology Laboratory	1
BLD	442W	Medical Laboratory Professionalism	2
BLD	445	Medical Laboratory Management	1
BLD	456	Medical Laboratory Professionalism	2
BLD	471L	Advanced Clinical Chemistry Laboratory	3
BLD	473L	Advanced Clinical Hematology and Body Fluids	3

456 is the current requirement

		Laboratory	
BLD	475L	Advanced Clinical Immunology and Immunohematology Laboratory	2
BLD	477L	Advanced Clinical Microbiology Laboratory	3
BLD	479	Professional Behavior	1
BLD	480	Medical Laboratory Science Examinations I	1
BLD	481	Medical Laboratory Science Examinations II	1
During the clinical practicum, usually two semesters, the student may be required to relocate and/or commute to a clinical laboratory in an affiliated clinical facility.			

16. Are there admissions requirements for this program?:

Grade or grade-point average requirements and if so in which course(s), portfolio requirement, audition, essay, etc. If there are not admission requirements other than those required by the University policy indicate "none".

Prev: To be considered for admission, the applicant must meet the following minimum criteria, in addition to the College of Natural Science admission requirements: 1. Have an overall grade-point average of 2.5 or better including courses taken at other institutions. 2. Have a grade-point average of 2.5 or better in the following courses: BLD 204, BLD 213L, BLD 313, BLD 314L. 3. Have completed BMB 401, MMG 201 or MMG 301, BLD 324, BLD 434. Students who present other exceptional credentials but do not meet the grade-point criterion noted above may be considered for admission on a probationary basis. Applications for admission to the medical laboratory science major are reviewed by a committee of faculty. Factors considered by the Admission Committee in the applicant's review and admission action are (1) academic record including grade-point averages in science and non-science courses, (2) grades for selected preclinical courses, (3) laboratory science exposure, (4) interview, and (5) compositions.

New: To be considered for admission, the applicant must meet the following minimum criteria, in addition to the College of Natural Science admission requirements: 1. Have an overall grade-point average of 2.5 or better including courses taken at other institutions. 2. Have a grade-point average of 2.5 or better in the following courses: BLD 204, BLD 213L, BLD 313, BLD 314L. 3. Have completed BMB 401, MMG 365, MMG 365L, BLD 324, BLD 434. Students who present other exceptional credentials but do not meet the grade-point criterion noted above may be considered for admission on a probationary basis. Applications for admission to the medical laboratory science major are reviewed by a committee of faculty. Factors considered by the Admission Committee in the applicant's review and admission action are (1) academic record including grade-point averages in science and non-science courses, (2) grades for selected preclinical courses, (3) laboratory science exposure, (4) interview, and (5) compositions.

17. Type(s) of change(s):

The requirements for admission as a senior, the academic program (progression) standards, and a course number edit.

18. Students who will be affected by the proposed changes:

MLS students

19. Will the proposed change(s) have a negative impact on students? If so, which ones?:

No

Describe impact and explain what accommodations will be made:

20. Reason(s) for change(s):

This program change is specifically to update: 1) the academic admission requirements, 2) academic program (progression) standards, and 3) correct a course number change which was missed when the academic program was originally approved (BLD 442W was proposed, but RO changed course to BLD 456). In the admissions requirements, we are replacing MMG 201 or MMG 301 with MMG 365 and MMG 365L. Students would not be able to take the senior level MMG 465 and MMG 465L without the MMG 365 and MMG 365L prerequisites. Academic program (progression) standards are performance requirements students must meet to stay in good academic standing in the program and progress to the clinical practicum training portion of the degree. BLD faculty realized that the existing progression standards did not include the Hematology and Hemostasis senior level courses (BLD 424 and BLD 424L), which represent 25% of our curriculum content. Omission of these courses could disadvantage some students who perform better in Hematology and Hemostasis from meeting current progression standards and could likewise advantage those students who perform poorly in Hematology and Hemostasis. Therefore, we are updating the progression standards to include Hematology and Hemostasis senior level course and its laboratory, BLD 424 and BLD 424L. We also realized when updating the academic program description that one course was numbered incorrectly. BLD 442W was a course number proposed which the RO office changed to BLD 456.

DEPARTMENT LEVEL APPROVAL STATUS

Approved: Biomedical Laboratory Diagnostics Program
9/18/2023 3:39:01 PM by Kathleen Hoag for John Gerlach, Director

COLLEGE LEVEL APPROVAL STATUS

Approved: College of Natural Science
9/21/2023 6:39:56 PM by Lynmarie Posey for LynnMarie Posey, Associate Dean

Comments: Approved at September 2023 NatSci Curriculum Committee meeting.

Call us: (517) 355-3300

**Contact Information (/contact.aspx) | Site Map (/sitemap.aspx) | Privacy Statement (/privacy.aspx) |
Site Accessibility (/siteaccessibility.aspx#)**

Call MSU: **(517) 355-1855** | Visit: **msu.edu (http://msu.edu)**

MSU is an affirmative-action, equal-opportunity employer. | **Notice of Nondiscrimination (https://civilrights.msu.edu/policies/)**

SPARTANS WILL. | © Michigan State University

MEDICAL LABORATORY SCIENCE

The medical laboratory science major is designed to prepare students for certification in medical laboratory science. The program includes courses in the biomedical laboratory sciences, communications, mathematics and statistics, and medical laboratory sciences coupled with clinical practicum experiences. It is designed to prepare graduates for certification and immediate employment in medical laboratories upon graduation by including a six-month hospital laboratory experience.

The Bachelor of Science degree program in medical laboratory science has been accredited by the National Accrediting Agency for Clinical Laboratory Sciences, 5600 N. River Road, Suite 720, Rosemont, Illinois 60018; phone (773) 714-8880.

Admission

Enrollment in the medical laboratory science major is limited. A new cohort is admitted at the end of the spring semester of the junior year. Applications for admission are due by the end of fall semester of the junior year. Applicant interviews are conducted during the spring semester of junior year. Admission decisions for students admitted to the medical laboratory science major are made following review of final grades from spring semester of junior year. ~~Students are admitted as Biomedical Laboratory Science major until the application process for Medical Laboratory Science is completed.~~

To be considered for admission, the applicant must meet the following minimum criteria, in addition to the College of Natural Science admission requirements:

1. Have an overall grade-point average of 2.50 or better including courses taken at other institutions.
2. Have a grade-point average of 2.50 or better in the following courses: BLD 204, BLD 213L, BLD 313, and BLD 314L.
3. Have completed BMB 401, ~~MMG 201 or MMG 301~~, BLD 324, and BLD 434.

MMG 365, MMG 365L

Students who present other exceptional credentials, but do not meet the grade-point criterion noted above, may be considered for admission on a provisional basis.

Applications for admission to the medical laboratory science major are reviewed by a committee of faculty. Factors considered by the Admission Committee in the applicant's review and admission action are: (1) academic record including grade-point averages in science and non-science courses; (2) grades for selected preclinical courses; (3) laboratory science exposure; (4) interview; and (5) compositions. Students who are admitted provisionally and require additional course work to remedy deficiencies may not count this course work towards the fulfillment of degree requirements.

Requirements for the Bachelor of Science Degree in Medical Laboratory Science

1. A minimum of 134 credits is required for the Bachelor of Science degree in Medical Laboratory Science.
2. The University requirements for bachelor's degrees as described in the *Undergraduate Education* section of this catalog.

The University's Tier II writing requirement for the Medical Laboratory Science major is met by completing Biomedical Laboratory Science 456. That course is referenced in item 4. b. below.

Students who are enrolled in the College of Natural Science may complete the alternative track to Integrative Studies in Biological and Physical Sciences that is described in item 1. under the heading *Graduation Requirements* in the *College* statement. Certain courses referenced in requirement 4. below may be used to satisfy the alternative track.

3. The requirements of the College of Natural Science for the Bachelor of Science degree. The credits earned in certain courses referenced in requirement 4. below may be counted toward College requirements as appropriate.
4. The following requirements for the major:

CREDITS

- a. Courses outside Biomedical Laboratory Diagnostics (52 to 59 credits):

- (1) All of the following courses (35 credits):

BS 161	Cell and Molecular Biology	3
BS 171	Cell and Molecular Biology Laboratory	2
CEM 141	General Chemistry	4
CEM 161	Chemistry Laboratory I	1
CEM 162	Chemistry Laboratory II	1
CEM 251	Organic Chemistry I	3
CEM 252	Organic Chemistry II	3
CEM 333	Instrumental Methods and Applications	3
MMG 365	Medical Microbiology	3
MMG 365L	Medical Microbiology Laboratory	1
MMG 465	Advanced Medical Microbiology	3
MMG 465L	Advanced Medical Microbiology Laboratory	2
PHY 231	Introductory Physics I	3
PHY 232	Introductory Physics II	3
- (2) One of the following courses (3 credits):

MTH 124	Survey of Calculus I	3
MTH 132	Calculus I	3
- (3) One of the following courses (3 or 4 credits):

STT 200	Statistical Methods	3
STT 201	Statistical Methods	4
STT 231	Statistics for Scientists	3
STT 351	Probability and Statistics for Engineering	3
STT 421	Statistics I	3
- (4) One of the following, either (a) or (b) (4 or 6 credits):

(a)BMB 401	Comprehensive Biochemistry	4
(b)BMB 461	Advanced Biochemistry I	3
BMB 462	Advanced Biochemistry II	3
- (5) One of the following, either (a) or (b) (4 or 8 credits):

(a)PSL 310	Physiology for Pre-Health Professionals	4
(b)PSL 431	Human Physiology I	4
PSL 432	Human Physiology II	4
- (6) One of the following courses (3 credits):

MMG 201	Fundamentals of Microbiology	3
MMG 301	Introductory Microbiology	3

- b. All of the following Biomedical Laboratory Diagnostics courses (47 credits):

- | | | |
|----------|---|---|
| BLD 121 | Survive and Thrive Freshman Seminar | 1 |
| BLD 204 | Mechanisms of Disease | 3 |
| BLD 213L | Clinical Laboratory Methods | 2 |
| BLD 302 | Clinical Chemistry | 2 |
| BLD 313 | Quality in Clinical Laboratory Practice | 3 |
| BLD 314L | Advanced Clinical Laboratory Methods | 1 |
| BLD 324 | Hematology and Hemostasis | 3 |
| BLD 402 | Advanced Clinical Chemistry | 4 |
| BLD 424 | Advanced Hematology and Hemostasis | 2 |
| BLD 424L | Advanced Hematology, Hemostasis and Urinalysis Laboratory | 1 |
| BLD 430 | Molecular Diagnostics | 2 |
| BLD 434 | Clinical Immunology | 3 |
| BLD 435 | Immunohematology | 2 |

BLD 435L Immunohematology Laboratory	1
BLD 445 Medical Laboratory Management	1
BLD 456 Medical Laboratory Professionalism (W)	2
BLD 471L Advanced Clinical Chemistry Laboratory	3
BLD 473L Advanced Clinical Hematology and Body Fluids Laboratory	3
BLD 475L Advanced Clinical Immunology and Immunohematology Laboratory	2
BLD 477L Advanced Clinical Microbiology Laboratory	3
BLD 479 Professional Behavior in Medical Laboratory Science	1
BLD 480 Medical Laboratory Science Examinations I	1
BLD 481 Medical Laboratory Science Examinations II	1
During the clinical practicum, usually two semesters, the student may be required to relocate and/or commute to a clinical laboratory in an affiliated clinical facility.	

Academic Standards

To progress to the clinical phase of the curriculum, students must earn a grade-point average of 2.50 or higher in MMG 465, MMG 465L, BLD 402, BLD 430, BLD 435, and BLD 435L. Students who do not meet this progression standard will be dismissed from the medical laboratory science degree and can graduate with a biomedical laboratory science degree.

BLD 424, BLD
424L

A specific statement of the policies for the clinical phase is provided in the Student Policies for Medical Laboratory Science Students. These policies are provided to all students upon acceptance to the major, but may be obtained earlier from the Biomedical Laboratory Diagnostics Program, 354 Farm Lane, Room N322, East Lansing, MI 48824. Admitted students are responsible for knowing and adhering to these program policies.