**PROGRAM CHANGES**

 WEBER STATE UNIVERSITY

**Submission Date:** 11/16/2012

**College:** Dumke College of Health Professions

**Department**: Medical Laboratory Sciences

**Program Title:** Medical Laboratory Sciences (BS)

**PROGRAM DESCRIPTION:** Medical laboratory scientists, sometimes referred to as medical technologists or medical laboratory technicians, are vital members of the health care team who play a central role in the detection, diagnosis and treatment of disease. To accomplish this, medical laboratory scientists must have a thorough understanding of a wide range of subjects including hematology, clinical chemistry, immunohematology (transfusion medicine), clinical microbiology, and immunology. Laboratory scientists appreciate investigative work and problem solving and are counted on to provide physicians with information critical to the successful diagnosis and treatment of patients. Medical laboratory scientists and technicians are employed by hospitals, clinics, research facilities, universities, and in lab-related commercial industry.

The MLS AAS and BS Programs can be completed either on campus or through online course offerings. To be eligible to take online MLS courses, students must be employed in a clinical laboratory in order to fulfill the laboratory requirements.

Students interested in the AAS MLS Program offered on campus, are first required to complete a set of support courses in chemistry, anatomy, physiology, and microbiology. In addition, the students will take two MLS introductory courses, one in laboratory practices and one in hematology. Once these are completed, which generally takes two to three semesters, the students are eligible to apply to the MLS AAS Program. If accepted, the students will take courses in clinical chemistry, clinical microbiology, and immunohematology. Each of these competency based courses and accompanying laboratory sections, are unique in that they are designed to simulate the medical laboratory setting and workflow without the need of an extended post graduate internship. Upon completion of these MLS courses, on-campus students will then spend two weeks in a medical laboratory facility. Graduates are then eligible to sit for the national ASCP Board of Certification examination as a Medical Laboratory Technician (MLT).

Students interested in the MLS AAS Program that is offered online, must be employed in a clinical laboratory. Students will receive the didactic (lecture) portion of each course online, while completing specific laboratory competencies in the clinical laboratory where they work, under the supervision of qualified clinical laboratory mentors. Please refer to the employer support information on the MLS Department web site: http://www.weber.edu/mls (online DEGREES/PROGRAMS). Applicants are first required to complete a set of support courses in chemistry, anatomy, physiology and microbiology. If accepted into the MLS AAS Program, students will then take courses in introductory laboratory practices, hematology, clinical chemistry, clinical microbiology, and immunohematology. Graduates are then eligible to take the national ASCP Board of Certification examination as a Medical Laboratory Technician (MLT).

Once students have completed the MLS AAS Program or are CLT/MLT certified, they become eligible to apply to the MLS BS Program. The degree can be completed either on-campus or online. Online applicants must be employed in a clinical laboratory as an MLT. If students complete their MLS AAS degree on campus at WSU, they must work as an MLT for three years prior to becoming eligible to apply for the online MLS programs. The curriculum includes advanced courses in laboratory practices, hematology, clinical chemistry, clinical microbiology and molecular diagnostics and immunohematology, along with a series of laboratory management and research courses. Several of the online MLS courses necessitate students working with a qualified medical laboratory mentor at their workplace to complete the laboratory requirements. Graduates are eligible to take the national ASCP Board of Certification examination as a Medical Laboratory Scientist (MLS).

Check all that apply:

\_\_√\_\_New course(s) required for major, minor, emphasis, or concentration.

\_\_√\_\_Modified course(s) required for major, minor, emphasis, or concentration.

\_\_\_\_ Credit hour change(s) required for major, minor, emphasis, or concentration.

\_\_√\_\_Credit hour change(s) for a course which is required for the major, minor, emphasis, or concentration.

\_\_\_\_ Attribute change(s) for any course.

\_\_\_\_ Program name change.

\_\_√\_\_Deletion of required course(s).

\_\_\_\_ Other changes (specify) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

If multiple changes are being proposed, please provide a summary. Use strikeout (~~strikeout~~) when deleting items in the program and highlight (highlight) when adding items.

**Submit the original to the Faculty Senate Office, MC 1033,** and an **electronic copy to** kbrown4 @weber.edu

**JUSTIFICATION:** The course proposal changes for the BS program reflect the need to add an additional credit hour to research (MLS 4801 and MLS 4802). The original assessment of one credit hour for each research class was underestimated. The amount of work expected by the students necessitated the additional credit hours. The new course numbers MLS 4803 and MLS 4804 will reflect the changes in the course credit hours.

 The course description change for MLS 4409 reflects the change to that course for fall 2013. MLS 4409 will no longer be a requirement for graduation from the BS program but will be part of a group of electives required for graduation, along with a new course, MLS 4410 offered to MLS Track 1 students as an alternative to research. Track II students will still be encouraged to take both semesters of research. There is a need for an interdisciplinary healthcare course and MLS 4410 will meet that need.

 MLS 4414 and MLS 4417 are merging into one class, MLS 4415. MLS 4414 and 4417 will be deleted. The overall credit hours will remain the same, 3 credit hours for MLS 4415, whereas MLS 4414 was previously 2 credit hours and MLS 4417 was 1 credit hour.

 The one credit hour addition to MLS 3311 reflects the contact hour change to 4 from 3 due to an increase in the material covered and amount of class time while the laboratory portion will remain the same. The new course number will be MLS 3310 to reflect the change in credit hours.

OLD:

Major Course Requirements for BS Degree

Core Medical Lab Courses Required (33 credit hours)

MLS 1113 - Introduction to Medical Laboratory Practices (4)

MLS 1123 - Principles of Hematology and Hemostasis (5)

MLS 2211 - Principles of Clinical Chemistry I (5)

MLS 2212 - Principles of Clinical Microbiology I (4)

MLS 2213 - Principles of Clinical Chemistry II (5)

MLS 2214 - Principles of Clinical Microbiology II (4)

MLS 2215 - Principles of Immunohematology (4)

MLS 2256 - Supervised Clinical Experience I (1)

MLS 2257 - Supervised Clinical Experience II (1)

Note:

Transfer students must have completed a MLS/MLT program and be MLT certified to enter the BS program.

Courses Required for Junior and Senior Curriculum

Select one of the following tracks:

Track I (Laboratory professional)

MLS 3301 - Online Orientation for BS Degree (1) Online students only

MLS 3302 - Advanced Medical Laboratory Practices I (4)

MLS 3311 - Advanced Immunohematology (3)

MLS 3313 - Advanced Hematology and Hemostasis (4)

MLS 3314 - Advanced Clinical Chemistry (3)

MLS 3316 - Advanced Clinical Microbiology and Molecular Diagnostics (4)

MLS 4409 - Clinical Correlation (1)

MLS 4411 - MLS Simulated Laboratory I (4)

MLS 4412 - MLS Simulated Laboratory II (4)

MLS 4414 - Laboratory Teaching and Supervision I (2)

MLS 4417 - Laboratory Teaching and Supervision II (1)

MLS 4453 - Supervised Clinical Experience I (1)

MLS 4454 - Supervised Clinical Experience II (1)

MLS 4801 - Research Projects in Medical Laboratory Sciences I (1)

MLS 4802 - Research Projects in Medical Laboratory Sciences II (1)

CHEM 1210 PS - Principles of Chemistry I (5) \*

and

CHEM 1220 - Principles of Chemistry II (5) \* or

CHEM 1110 PS - Elementary Chemistry (5) \*

CHEM 2310 - Organic Chemistry I (4) \* and

CHEM 2315 - Organic Chemistry I Lab (1) \*

or

CHEM 1120 - Elementary Organic Bio-Chemistry (5) \*

HTHS 1110 LS - Biomedical Core (4) or

ZOOL 2200 - Human Physiology (4)

HTHS 1111 - Biomedical Core (continued) (4) or

ZOOL 2100 - Human Anatomy (4) or

PHYS 1010 PS - Elementary Physics (3)

MICR 2054 LS - Principles of Microbiology (4) or

MICR 1113 LS - Introductory Microbiology (3)

MICR 3254 - Immunology (4)

or

HTHS 3328 - Pathophysiology of Cells and Tissues (2) and

HTHS 3329 - Pathophysiology of Organs and Systems (2)

MICR 3305 - Medical Microbiology (5) or

MICR 3603 - Advanced Microbiology for the Health Professions (3) or

HIM 3200 - Epidemiology and Biostatistics (3)

Note:

\* Students seeking an AAS or a BS degree are required to complete a minimum of two semesters of Chemistry to include an Organic or Biochemistry course.

Track II (Pre-professional)

MLS 3302 - Advanced Medical Laboratory Practices I (4)

MLS 3311 - Advanced Immunohematology (3)

MLS 3313 - Advanced Hematology and Hemostasis (4)

MLS 3314 - Advanced Clinical Chemistry (3)

MLS 3316 - Advanced Clinical Microbiology and Molecular Diagnostics (4)

MLS 4409 - Clinical Correlation (1)

MLS 4453 - Supervised Clinical Experience I (1)

MLS 4454 - Supervised Clinical Experience II (1)

MLS 4801 - Research Projects in Medical Laboratory Sciences I (1)

MLS 4802 - Research Projects in Medical Laboratory Sciences II (1)

CHEM 1210 PS - Principles of Chemistry I (5)

CHEM 1220 - Principles of Chemistry II (5)

CHEM 2310 - Organic Chemistry I (4) and

CHEM 2315 - Organic Chemistry I Lab (1)

CHEM 2320 - Organic Chemistry II (4) and

CHEM 2325 - Organic Chemistry II Lab (1)

or

CHEM 3070 - Biochemistry I (4)

MICR 2054 LS - Principles of Microbiology (4) or

MICR 1113 LS - Introductory Microbiology (3)

MICR 3254 - Immunology (4)

or

HTHS 3328 - Pathophysiology of Cells and Tissues (2) and

HTHS 3329 - Pathophysiology of Organs and Systems (2)

MICR 3305 - Medical Microbiology (5) or

MICR 3603 - Advanced Microbiology for the Health Professions (3) or

HIM 3200 - Epidemiology and Biostatistics (3)

PHYS 2010 PS - College Physics I (5)

PHYS 2020 - College Physics II (5)

ZOOL 2100 - Human Anatomy (4)

ZOOL 2200 - Human Physiology (4)

ZOOL 3300 - Genetics (4)

NEW:

Major Course Requirements for BS Degree

Core Medical Lab Courses Required (33 credit hours)

MLS 1113 - Introduction to Medical Laboratory Practices (4)

MLS 1114 - Principles of Hematology and Hemostasis (4)

MLS 2211 - Principles of Clinical Chemistry I (5)

MLS 2212 - Principles of Clinical Microbiology I (4)

MLS 2213 - Principles of Clinical Chemistry II (5)

MLS 2214 - Principles of Clinical Microbiology II (4)

MLS 2210 - Principles of Immunohematology (5)

MLS 2256 - Supervised Clinical Experience I (1)

MLS 2257 - Supervised Clinical Experience II (1)

Transfer students must have completed a MLS/MLT program and be MLT certified to enter the BS program.

Courses Required for Junior and Senior Curriculum

Select one of the following tracks:

Track I (Laboratory professional)

MLS 3301 - Online Orientation for BS Degree (1) Online students only

MLS 3302 - Advanced Medical Laboratory Practices I (4)

MLS 3310 - Advanced Immunohematology (4)

MLS 3313 - Advanced Hematology and Hemostasis (4)

MLS 3314 - Advanced Clinical Chemistry (3)

MLS 3316 - Advanced Clinical Microbiology and Molecular Diagnostics (4)

MLS 4411 - MLS Simulated Laboratory I (4)

MLS 4412 - MLS Simulated Laboratory II (4)

MLS 4415 - Laboratory Teaching and Supervision(3)

MLS 4453 - Supervised Clinical Experience I (1)

MLS 4454 - Supervised Clinical Experience II (1)

CHEM 1210 PS - Principles of Chemistry I (5) \*

and

CHEM 1220 - Principles of Chemistry II (5) \*

CHEM 2310 - Organic Chemistry I (4) \* and

CHEM 2315 - Organic Chemistry I Lab (1) \*

 or

CHEM 1110 PS - Elementary Chemistry (5) \*and

 CHEM 1120 - Elementary Organic Bio-Chemistry (5) \*

HTHS 1110 LS - Biomedical Core (4) or

ZOOL 2200 - Human Physiology (4)

HTHS 1111 - Biomedical Core (continued) (4) or

ZOOL 2100 - Human Anatomy (4) or

PHYS 1010 PS - Elementary Physics (3)

MICR 2054 LS - Principles of Microbiology (4) or

MICR 1113 LS - Introductory Microbiology (3)

MICR 3254 - Immunology (4) or

MICR 3203 – Immune System in Health & Disease (3)

or

HTHS 3328 - Pathophysiology of Cells and Tissues (2) and

HTHS 3329 - Pathophysiology of Organs and Systems (2)

MICR 3305 - Medical Microbiology (5) or

MICR 3603 - Advanced Microbiology for the Health Professions (3) or

HIM 3200 - Epidemiology and Biostatistics (3)

Electives: *(4 credit hours required)*

MLS 4409 Clinical Correlation (1) and

MLS 4410 Interdisciplinary Health Care Teams (3)

or

MLS 4803 Research Projects in Medical Laboratory Sciences I (2) and

MLS 4804 Research Projects in Medical Laboratory Sciences II (2)

\* Students seeking an AAS or a BS degree are required to complete a minimum of two semesters of Chemistry to include an Organic or Biochemistry course.

Track II (Pre-professional)

MLS 3302 - Advanced Medical Laboratory Practices I (4)

MLS 3310 - Advanced Immunohematology (4)

MLS 3313 - Advanced Hematology and Hemostasis (4)

MLS 3314 - Advanced Clinical Chemistry (3)

MLS 3316 - Advanced Clinical Microbiology and Molecular Diagnostics (4)

MLS 4453 - Supervised Clinical Experience I (1)

MLS 4454 - Supervised Clinical Experience II (1)

CHEM 1210 PS - Principles of Chemistry I (5)

CHEM 1220 - Principles of Chemistry II (5)

CHEM 2310 - Organic Chemistry I (4) and

CHEM 2315 - Organic Chemistry I Lab (1)

CHEM 2320 - Organic Chemistry II (4) and

CHEM 2325 - Organic Chemistry II Lab (1)

or

CHEM 3070 - Biochemistry I (4)

MICR 2054 LS - Principles of Microbiology (4) or

MICR 1113 LS - Introductory Microbiology (3)

MICR 3254 - Immunology (4) or

MICR 3203 - The Immune System in Health & Disease (3)

or

HTHS 3328 - Pathophysiology of Cells and Tissues (2) and

HTHS 3329 - Pathophysiology of Organs and Systems (2)

MICR 3305 - Medical Microbiology (5) or

MICR 3603 - Advanced Microbiology for the Health Professions (3) or

HIM 3200 - Epidemiology and Biostatistics (3)

PHYS 2010 PS - College Physics I (5)

PHYS 2020 - College Physics II (5)

ZOOL 2100 - Human Anatomy (4)

ZOOL 2200 - Human Physiology (4)

ZOOL 3300 - Genetics (4)

Electives: *(4 credit hours required)*

MLS 4409 Clinical Correlation (1) and

MLS 4410 Interdisciplinary Health Care Teams (3)

or

MLS 4803 Research Projects in Medical Laboratory Sciences I (2) and

MLS 4804 Research Projects in Medical Laboratory Sciences II (2)

 **INFORMATION PAGE**

Attach a copy of the present program from the current catalog and a revised version (exactly as you wish it to appear in the catalog). See above

Did this program change receive unanimous approval within the Department? YES If not, what are the major concerns raised by the opponents?

Explain any effects this program change will have on program requirements or enrollments in other departments including the Bachelor of Integrated Studies Program. In the case of similar offerings or affected programs, **you should include letters from the departments in question stating their support or opposition to the proposed program**.

Indicate the number of credit hoursfor course work within the program. (Do not include credit hours for General Education, SI, Diversity, or other courses unless those courses fulfill requirements within the proposed program.) Track I= 42, Track II= 51-53

Indicate the number of credit hours for course work within the current program. (Do not include credit hours for General Education, SI, Diversity, or other courses unless those courses fulfill requirements within the current program.) Track I= 40, Track II= 49-51

 APPROVAL PAGE

for:

(Program Title)

Approval Sequence:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Department Chair/Date (& BIS Director if applicable)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

College Curriculum Committee/Date

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Program Director or ATE Director (if applicable)/Date

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Dean of College/Date

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| Courses required in programs leading to secondary undergraduate teacher certification must be approved by the University Council on Teacher Education before being submitted to the Curriculum Committee.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ University Council on Teacher Education/Date  |

|  |
| --- |
| Master’s program changes must be reviewed by the University Graduate Council before being submitted to the Curriculum Committee. I have read the proposal and discussed it with the program director.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_University Graduate Council Representative/Date |

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

University Curriculum Committee/Date

Passed by Faculty Senate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date

Effective Date (As per PPM 4-2a) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_