MLT 150: Introduction to Laboratory Science Methods

Catalog Description: MLT 150 Introduction to Laboratory Science Methods (2-0-2)
This course orients the student to the concepts encompassed in the laboratory environment, to include safe specimen handling, testing procedures, reporting results, basic quality control, laboratory organization and professionalism.

Prerequisite: Admission into the MHPC MLT Program; successful completion of required general education pre-requisite courses, grade of “C” or better; minimum cumulative GPA of 2.5; successful completion of each course during each semester required in the MHPC MLT program, grade of “C” or better.

Text: No required text.

Other Required Materials: Handouts, videos, training aids and transparencies as provided by the instructor. Library assignments, periodicals, computerized modules, and guest speakers may be used as appropriate.

Purpose of the Course: This course introduces students to the clinical laboratory. Course content includes safety, quality control, regulations, basic equipment, laboratory mathematics, and specialized areas of the laboratory. Much instruction will focus on instrumentation, specifically, basic components, principles of operation, maintenance, and quality control. Record keeping, clinical laboratory management, and patient report management will also be covered.

Course Learning Outcomes:
1. Demonstrate safety measures necessary for clinical laboratory and phlebotomy skills.
2. Demonstrate math skills to ensure safety and quality control.
3. Describe the elements of professional and ethical behavior related to the role of the Medical Laboratory Technician.

4. Summarize the professional processes of certification and accreditation.

**ASSESSMENT OF STUDENT LEARNING:**
In both the didactic and the laboratory portions of the course, if applicable, the student must achieve 78% or greater. Failure to achieve this minimum score will result in dismissal from the program. In the laboratory portion of the course, the final grade will be recorded as “Pass” or “Fail” and registered with the didactic portion.

The following grading scale applies to all programs within the Missouri Health Professions Consortium MLT Program:

- 100 – 92% = A
- 83 – 91% = B
- 78 – 82% = C
- 66 – 77% = D
- 65% and below = F

In the lecture portion of the clinical course, the final grade is derived from student performance on examination(s) and/or assignments.

Grading/student assessment of lecture (didactic) portion of the course:

<table>
<thead>
<tr>
<th>Final grade will be composed of:</th>
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<tbody>
<tr>
<td><strong>Unit tests averaged</strong></td>
<td>60%</td>
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<tr>
<td><strong>Quizzes, case studies, study questions, or other assignments, attendance and punctuality averaged</strong></td>
<td>10%</td>
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<tr>
<td><strong>Final Exam</strong></td>
<td>30%</td>
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<tr>
<td><strong>Total:</strong></td>
<td>100%</td>
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Grading/student assessment of laboratory (student laboratory) portion of the course, if applicable:

<table>
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<tr>
<th>Final PASS/FAIL grade will be composed of:</th>
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<tbody>
<tr>
<td><strong>Laboratory Exercises averaged</strong></td>
<td>30%</td>
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<tr>
<td><strong>Professional Behaviors Evaluation</strong></td>
<td>70%</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td>100%</td>
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**Program Assessment:**
The MHPC MLT Program continually strives to meet the needs of the Medical Laboratory Technician student through program improvements. This is a cooperative effort that includes input from the faculty, student, Medical Laboratory Technician Advisory Board, and other appropriate agencies or entities. Students are assessed on mastery of the course concepts and essential skills throughout the courses of the Medical Laboratory Technician Program. Other program assessments include clinical performance criteria, essential skills mastery, the clinical process evaluation, ASCP examination scores, placement rates, and follow-up surveys.

**Program Outcomes:**
1. Demonstrate knowledge of laboratory professional practice by providing safe, effective and accurate laboratory test results while maintaining patient confidentiality.
2. Utilize established laboratory procedures taking into consideration the application of scientific principles, technical skills for operation and maintenance of laboratory equipment, and
relationship of laboratory findings to disease states to ensure appropriate patient diagnosis and treatment.

3. Employs professional conduct and communication skills with patients, families, laboratory personnel, healthcare team members, and the community as a medical laboratory technician.

4. Participate in professional development activities valuing the importance of continuous learning in laboratory medicine.

5. Comply with Federal, OSHA, and laboratory safety procedures for the well-being of the patient, healthcare team, self and community.

INSTRUCTOR POLICIES:

Please see student handbook for a complete list of all detailed program policies.

Academic Dishonesty: The faculty believes: if students do not respect the ethics of their program, it is unlikely they will respect or practice ethical behavior in their professional careers. Falsifying academic work is a serious offense in this professional program. Such practice undermines critical thinking and ultimately endangers the student’s future in a professional career. Any student who commits an act of academic dishonesty is subject to disciplinary action. The procedures for disciplinary action will be in accord with the rules and regulations of the home campus governing disciplinary action and may include dismissal from the program. Note: Issues of academic dishonesty relate to behaviors/ performance in both general education and professional courses. Thus, academic dishonesty is not only a basis for disciplinary action but is also relevant to the evaluation of the student’s level of performance.

Attendance: Students enrolled in the MHPC MLT program are expected to attend all scheduled class and clinical rotation sessions. Students are expected to be prepared, and demonstrate timely attendance for all class/lab/clinical rotation sessions and appointments. Attendance will be taken daily for professionalism and financial aid purposes. A faculty member may use attendance, or lack of attendance, as a criterion in the determination of a course grade and/or dismissal from a course.

Email: All students are required to have and use their school provided email address for all MHPC MLT program communication. Should any issues arise with the email address being used, it will be up to the student to contact their home campus IT department to rectify the situation. Departmental and class messages will be relayed through home campus email. Email should be read every 24 hours while the program is in session. Students are responsible for information distributed through email by the program personnel and individual instructors within the 24-hour limit. If a student has not replied to an email in which it was required to reply within 24 hours of the message being sent, disciplinary action will be taken.

Cell Phones & Texting: Cell phones must be turned off or silenced during all program components (i.e. synchronous lectures, student labs, clinicals, practicums, exams, etc.). Text messaging or phone calls to any faculty’s personal cell phones will not be allowed for official program functions (i.e. absences, questions about course materials, etc.); students must use faculty email addresses as the main form of communication and as secondary communication, faculty office phone numbers/ voicemail will be used.

• You may not be allowed to carry your cell phone with you during your clinical rotations. It is up to the clinical affiliate policies that you must follow. It is suggested that you obtain the facility’s number on the first day of clinical rotations for family members to contact in the event of an emergency.

Canvas: Students are expected to utilize Canvas for course materials and examinations. Logging in to Canvas should occur every 24 hours while the program is in session. Information can be posted in the
Announcements section of each course, which will show up upon logging into the course. Students may be required to leave microphones open and webcams on during lecture sessions to ensure that there are no side conversations during synchronous lecture. There is also a Canvas inbox which is separate from your school provided email address. Please refrain from using this email inbox for anything program related. Use the school provided email address for any communication throughout the entirety of the program.

COLLEGE POLICIES

Attendance Policy: Students are expected to attend all class sessions for which they are enrolled. Each College reserves the right to drop or withdraw students from courses due to lack of attendance.

Students need to be aware that dropping/being dropped from a course and their last date of attendance in the course may impact their financial aid.

Faculty are required to track attendance and report lack of attendance. An instructor must complete the appropriate steps to drop a student within one week following the student’s violation of the attendance policy. Additionally, a student’s attendance rate will be calculated based upon the first day the academic session begins (not the student’s date of enrollment in the course). If a student does not attend a course as defined below, the student will be dropped as “Never Attended.”

Term Length Drop Calculations

16-week: Any student who misses two (2) consecutive weeks of class will be dropped from the course by the instructor unless acceptable justification is provided by the student and the student still has the opportunity to be successful in the course.

Acceptable justification may include, but is not limited to, family emergencies, illness or injury, college-approved co-curricular and extra-curricular activities, and religious holidays.

Definition of Course Attendance

| Virtual Course | Being present, via appropriate platform, for scheduled class meetings/activities |
| Hybrid Course  | Physically attending scheduled, face-to-face, class meetings and active participation in the online portion of the course which may include any or all of the following: |
|               | • Completion of quizzes or exams during class meetings and online |
|               | • Submission of assignments during class meetings and online |
|               | • Participation in discussions during class meetings and online |

Simply logging into the Learning Management System (Canvas) and/or accessing the course and course related material does not constitute active participation for the online component of hybrid courses or for online courses. (Policy Handbook, I.090 & M.095)

Americans with Disabilities Act (ADA)

It is the intent of the MHPC MLT Program that compliance with the Americans with Disabilities Act shall be a high priority. Appropriate changes will be made and accommodation provided to qualified individuals with disabilities, unless doing so would pose an undue burden on the institution’s resources or would fundamentally alter the nature of a program.
Students who have disabilities that qualify under the Americans with Disabilities Act (ADA) should register with their home campus if requesting accommodations and/or assistance. All members of the Missouri Health Professions Consortium comply with ADA guidelines. If you have special needs as addressed by the Americans with Disabilities Act (ADA) and need assistance, please notify the course instructor immediately and/or contact the Access/ADA Office at your college to confidentially discuss disability information, academic accommodations, appropriate documentation and procedures. The MHPC cooperating colleges provide accommodative services for students who qualify. Accommodation services are individualized in an attempt to provide the most appropriate services for the needs of the student.

Students may register for assistance through their respective home campuses. College contact information is listed below:

**East Central College:**
- Paul Lampe, Director of Advising and Counseling, Access and Disability Services, 636-584-6581, paul.lampe@eastcentral.edu

**Mineral Area College:**
- Access Office/Disability Services, 573-518-2152, 5270 Flat River Road, Park Hills, Missouri, 63601.

**Moberly Area Community College:**
- Columbia campus, Parkade Center, Room 119, (573) 234-1067 x 12120, Stacy Donald, Director of Access/ADA Services at StacyDonald@macc.edu

**North Central Missouri College:**
- Megan Pester, Accessibility Services Coordinator, Alexander Student Center mpester@mail.ncmissouri.edu, 660-359-3948 Ext 1405

**State Fair Community College (SFCC Regulation 1210):**
- Director of Human Resources, Hopkins Student Services Center, (660) 596-7484, or Dean of Student and Academic Support Services, Hopkins Student Services Center, (660) 596-7393. The Hopkins Center is located on SFCC’s Sedalia campus at 3201 W. 16th St., Sedalia, MO 65301.

**Three Rivers College:**
- Student Services Specialist/Coordinator of Disability Services (573)840-9605

**Notice of Non-Discrimination**

The Missouri Health Professions Consortium and its member institutions do not discriminate on the basis of race, color, national origin, ancestry, gender, age, disability, veteran status, and marital or parental status in admissions, programs and activities, and employment. Inquiries concerning nondiscrimination should be directed to the following respective college representatives:

**East Central College:**
- Vice President of Student Development, 131 Buescher Hall, telephone number 636-584-6565 or stnotice@eastcentral.edu

**Mineral Area College:**
- Office of the Dean of Students, 573-518-2154, or Access Office/Disability Services, 573-518-2152, 5270 Flat River Road, Park Hills, Missouri, 63601.

**Moberly Area Community College:**
- Office of Student Services, 101 College Avenue, Moberly, Missouri 65270, 660-263-4110, ext. 11239

**North Central Missouri College:**
- Chief of Staff, North Central Missouri College, 1301 Main, Trenton, MO 64683, (660) 359-6203 or kharris@mail.ncmissouri.edu

**State Fair Community College (SFCC Regulation 1210):**
- Director of Human Resources, Hopkins Student Services Center, (660) 596-7484, or Dean of Student and Academic Support Services, Hopkins Student Services Center, (660) 596-7393. The Hopkins Center is located on SFCC’s Sedalia campus at 3201 W. 16th St., Sedalia, MO 65301. Inquiries also may be directed to the U.S. Department of Education, Office of Civil Rights at OCR.KansasCity@ed.gov.

**Three Rivers College:**
- Student Services Specialist/Coordinator of Disability Services (573)840-9605 located in the Welcome Center in the Bess Student Center, Poplar Bluff, MO 63901