Facility is required to have the outline submitted to the Academic Affairs Office. The course outline is the form used for approval of new courses by the Academic Affairs and Standards Council.

DEPT. MLT  COURSE NUMBER: MDL1110

NUMBER OF CREDITS: 2

COURSE TITLE: Laboratory Math Calculations

CATALOG DESCRIPTION: This course begins with a review of basic math, algebra, and the metric system. The student will then learn basic math as it applies to the laboratory sciences.

AUDIENCE: Medical Laboratory Technician students

FULFILLS MN TRANSFER CURRICULUM AREA(S) (Leave blank if not applicable)
Area: by meeting the following competencies:
Area: by meeting the following competencies:
Area: by meeting the following competencies:

PREREQUISITES OR NECESSARY ENTRY SKILLS/KNOWLEDGE:

LENGTH OF COURSE: Fall semester only

THIS COURSE IS USUALLY OFFERED:
Every other year □  fall X spring □  summer □  undetermined □

Four goals are emphasized in course at Minnesota West Community & Technical College:

1) ACADEMIC CONTENT: The academic objectives of this course are:
   a. To provide a review of basic mathematics
   b. To introduce math as it is used in the clinical laboratory science setting

2) THINKING SKILLS: This course will help students improve the effectiveness of their thinking skills through:
   a. Developing problem-solving strategies
   b. Use the mathematical formula appropriately
   c. Understand and correlate laboratory results with disease process or quality control
   d. Analyze data for quality control purposes
3) COMMUNICATIONS SKILLS: This course will help students improve their oral and written communication skills through:
   a. Group problem solving
   b. Oral interpretation of data

4) HUMAN DIVERSITY: This course will help students recognize, understand, and appreciate human diversity through:
   a. Working in small groups
   b. Helping each other solve math problems

TOPICS TO BE COVERED:
   a. Basic math, fractions, percentages, proportions, ratios and fundamental algebra
   b. Scientific notation
   c. Temperature conversion
   d. Metric system
   e. Quality control calculations and interpretation

LIST OF EXPECTED COURSE OUTCOMES:
The student will be able to:
1. Calculate and convert metric values such as length, weight, mass and volume and temperature
2. Calculate values using algebra
3. Calculate scientific notation and convert values to scientific notation
4. Calculate dilutions and titers
5. Perform dilutions
6. Use basic mathematics in calculations
7. Solve math problems involving fractions, percentages, ratios, and proportions
8. Calculate basic statistical concepts as they relate to quality control
9. Interpret results as they relate to quality control and Levy Jennings’s rules

LEARNING/TEACHING TECHNIQUES used in the course are:
X Collaborative Learning  X Problem Solving
□ Student Presentations  □ Interactive Lectures
□ Creative Projects  □ Individual Coaching
X Lecture  □ Films/Videos/Slides
X Demonstrations  □ Other (describe below)
□ Lab

ASSIGNMENTS AND ASSESSMENTS FOR THIS CLASS INCLUDE:
X Reading  X Tests  □ Individual Projects
□ Oral Presentations  X Worksheets  □ Collaborative Projects
X Textbook Problems  □ Papers  □ Portfolio
□ Group Problems  □ Term Paper
□ Other (describe below)
EXPECTED STUDENT LEARNING OUTCOMES:

See above

The information in this course outline is subject to revision

To receive reasonable accommodations for a documented disability, please contact the campus Student Services Advisor or campus Disability Coordinator as arrangements must be made in advance. In addition, students are encouraged to notify their instructor.

Veteran Services: Minnesota West is dedicated to assisting veterans and eligible family members in achieving their educational goals efficiently. Active duty and reserve/guard military members should advise their instructor of all regularly scheduled military appointments and duties that conflict with scheduled course requirements. Instructors will make every effort to work with the student to identify adjusted timelines. If you are a veteran, please contact the Minnesota West Veterans Service Office.

This document is available in alternative formats to individuals with disabilities by contacting the Student Services Advisor or by calling 800-658-2330 or Minnesota Relay Service at 800-627-3529 or by using your preferred relay service.

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