

Department.: Allied Health

Course number: MT 280W

Course title: Seminar in Medical Laboratory Sciences

Credits: 2

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Catalog Copy: MLSC 4094W. Seminar in Medical Laboratory Sciences

(280W) (Formerly offered as MT 4094W). Both semesters. Two Credits. Prerequisite: ENGL 1010 or 1011 or 3800; to enroll in the course the student must earn a "C" or better in AH 4241W. Open only to Medical Laboratory Science majors; others consent of Medical Laboratory Sciences Program Director.

Examination of case studies integrating all areas of the clinical laboratory in the prevention, diagnosis, and treatment of a disease. Design and implementation of a research project or investigation of a topic in Medical Laboratory Sciences. Oral and written presentation of research project or topic.

W Criteria : This course is currently a program requirement for the medical technology students. It already has a writing component. By converting this course to a "W" course, it will give students a senior capstone seminar course that can satisfy the requirement for "Writing in the major". This course is currently designed as a capstone course that integrates all program material from the junior/ senior year. Therefore, through writing, students will be able to explicitly make connections between course material . The writing requirement for this course is also consistent with what a professional MT would write as part of their job responsibilities.

Role of Grad Students: N/A graduate assistants do not teach in this program

Supplementary Information:

Syllabus: MT 280W Seminar in Medical Technology

Currently MLS 208W is used as the "Writing in the major" course. With the addition of 3 new pathway majors in the fall 06 semester , we would like to open this course to more students. In order to accommodate the increased # of students and to decrease associated resources, we have a proposal forward to drop the "W" designation from the course. This will leave the program without a "writing in the major" course. The MT 280 course is an existing course and is a graduation requirement for all students in the Medical Technology Program. The existing writing component of this course is indicative of the types of writing assignments the students will need to be proficient in as practitioners.

By converting this course to a "W" course, students receive credit for the extensive writing that is already required of them and it will provide them with a " writing in the major course".

Course Syllabus

Goal

Provide students in the Medical Technology degree program with a capstone in their major, readying them for transition to their professional career, encompassing oral as well as written proficiency.

Course Objectives:

The MT 280 Seminar in Medical Technology is a non-lecture, cross-disciplinary course that relies on independent learning, as well as classroom discussion. The seminar is comprised of four components and includes:

1. clinical lab rounds
2. clinical research or educational project
3. procedure writing
4. final written comprehensive exam

During the Clinical Rotation, students select, prepare, and present problems, interesting findings, questions, or clinical cases encountered during their rotations. They also complete a clinical research or educational project and prepare a written report, poster and oral presentations. A final written comprehensive exam is used to assess preparedness for a professional certification exam.

Upon completion of this course, students will be able to:

1. Select, prepare and present ten problems, interesting findings, questions or clinical cases encountered during clinical rotations.
2. Write a clinical procedure according to Clinical and Laboratory Standards Institute (CLSI) approved standards.
3. Complete a research or educational project of the student's interest.
 - a. Write a report or account of the project.
 - b. Prepare a poster presentation of the project.
 - c. Give an oral report of the project.

4. Pass a written clinical comprehensive examination.

V. Student Evaluation and Grading Procedure

Attendance is MANDATORY. Make-up classes, presentations or exams will be scheduled for excused absences only, upon discretion of the instructor. Excused absences include illnesses WITH A DOCTOR'S NOTE or a death in the family. If you plan to be absent, call or email the instructor prior to class time. If you miss a class, whether it is excused or unexcused, you must contact the instructor BEFORE noon on the Monday prior to the next scheduled class.

Grade calculation:

Clinical Lab Rounds 30%

Laboratory procedure 10%

Research or educational project

Written report 20%

Poster presentation 20%

Oral presentation 10%

Written comprehensive exam 10%

Note: A grade of > 73 is required for satisfactory completion of the course. In addition, each writing component must be passed with a grade of >73 in order to pass the course. Failure to pass any of the writing components results in failure of the course.

VII. Schedule

Week 1: Lecture: Introduction

Week 2: Lecture: How to write a laboratory procedure according to CLIS standards .

Week 3: Presentation of suggested research projects by Clinical Laboratory Partners (CLP) representatives

Draft of laboratory procedure due

Week 4: Sample laboratory rounds / case study presentation

Topic selection and initial meeting with Project Coordinator

Week 5: Laboratory rounds

Revised final laboratory procedure due

Week 6: Laboratory rounds

Written project proposal and timetable for completion due to Project Coordinator and Program Director

Week 7: Laboratory rounds

Week 8: Laboratory rounds

Outline of written report due to Project Coordinator

Week 9: Laboratory rounds

Week 10: Laboratory rounds

Week 11: Laboratory rounds

Week 12: Laboratory rounds

Draft of written report due to Project Coordinator

Week 13: Laboratory rounds

Week 14: Laboratory rounds

Week 15: Lecture: How to design a scientific poster

Week 16: Revised final written report due to Project Coordinator and Program Director

Week 17: Draft of poster presentation due to Project Coordinator

Week 18: Revised final poster presentation due to Project Coordinator and Program Director

Week 19: Oral project presentations

Week 20: Written comprehensive exam

Guidelines for Laboratory Rounds and Grading

Students are required to submit 10 topics for discussion with write-ups. One topic must be submitted for each scheduled lab rounds. Subject matter must be directly related to the student's current clinical rotation. Topics can include questions, problems, or interesting clinical cases.

The topics will be submitted no later than 12 noon on the Monday preceding lab rounds. The topics will be compiled and emailed to faculty and students by Tuesday at 12 noon. Students leaving for vacation or a PT (Project Time) week must submit their topic prior to departure.

Topic format: The topic should be stated in a brief but concise manner, two sentences maximum.

Discussion write-up: The write-up should also be concise and include background information to clarify the nature of the question, problem, or clinical case. The write-up must be typed and submitted to an instructor on the day of lab rounds. After the Friday of the week of Lab Rounds, the write-up will not be accepted. (The student would receive 2 points and a grade of 20.)

Attendance at Lab Rounds: It is expected that students will attend all Lab Rounds unless on vacation or if there is a reasonable extenuating circumstance that arises. If the topic and write-up are on time, but the student does not attend and has no reasonable extenuating circumstance, the student will receive no more than 5 points and a grade of 50.

Grading: Each topic with write-up will be worth 10 points for a total of 100 possible points. The clinical instructor for each subject area will be responsible for grading that area's topic.

Scoring Rubric:

Student attendance and

Acceptable topic and write-up. Up to 10 points/topic

Note: Minus 1 point/day for late submissions.

1. Topic

Stated clearly and concisely (2 points)

2. Discussion Write-Up (8 points)

Demonstrates research into the topic, including:

a . background information (2 points)

b . definition of the normal/standard (2 points)

c . use of overheads, diagrams, or other visual aids as appropriate (2 points)

d . integration with other laboratory areas

if applicable (2 points)

Guidelines for Laboratory Procedure Writing and Grading

Objectives: To become familiar with the Clinical and Laboratory Standards Institute (CLSI) standards for development, review, approval, management and use of policy, process and procedure documents for the clinical laboratory.

Following approved guidelines, the student will write and prepare a laboratory procedure according to CLSI standards. This will include:

Purpose

Principle

Materials and Equipment

Quality control

Methods and procedure

Results

Interpretation of results

Normal values and ranges

Limitations of the procedure

Interfering substances

References

Evaluation of laboratory procedure

1.. Content (40 points)

a . clear introduction of purpose of procedure

b . methods and technical procedures clearly described

c . means to present data succinctly described (use of graphs,charts , tables, etc., if applicable)

2. Organization (20 points)

a . logical progression (introduction, methods, data, conclusions)

b . adherence to standard scientific style

4. References (20 points)

a . historical and current, if applicable

b . correctly documented and cited

5. Style (20 points)

a . clear and concise

b . correct grammar and spelling

Note: Two points per day will be deducted if draft or completed assignment is handed in late.

Note: Drafts will be submitted according to course schedule, but students may also meet with faculty individually for feedback and clarification of writing.

Research or Educational Project Guidelines

Objectives: To apply the knowledge gained in the student and clinical laboratories to the development, investigation, or analysis of either new methodologies, diagnostic procedures, or laboratory techniques.

Guidelines:

I. Topic Selection

A. Representatives from the divisions of the Clinical Laboratory Partners (CLP) will present their suggestions for project topics to the Medical Technology students. Each project will be described briefly and a contact person (the Project Coordinator) in the division will be identified.

B. Students may also develop and propose their own projects. Students planning to propose their own topics should meet with either the Program Director or an instructor to insure that the project is feasible, funding is available, and to identify a Project Coordinator.

II. Initial meeting with the Project Coordinator

A. After selecting a project, each student should contact the individual who has been

designated as the Project Coordinator to make an appointment for an initial meeting. The student should give a copy of the Student Project Guidelines to the Project Coordinator at this time. Only one student can be assigned to a project unless otherwise specified.

B. The initial meeting is to discuss the Project Proposal and a plan for implementing the project. The purpose of this meeting is to establish:

1. the specific details of the project and clarify the student's and Project Coordinator's responsibilities.

2. a tentative time table for progress on the project. Individual project schedules may vary widely depending on the number and availability of patient specimens, ordering and availability of reagents, equipment, or instrumentation, and work flow in the division.

C. A tentative schedule of meetings with the Project Coordinator should be established. A minimum of two meetings is required, more as agreed upon by the Project Coordinator. The purpose of these meetings includes:

1. submission of a written Project Proposal to the Project Coordinator and the Program Director for approval

2. reporting and assessing progress on the project, discussing and resolving technical problems, etc.

3. developing a rough draft of the written paper, project, or other materials

4. review and revision of the paper, project, or other materials

5. completion and submission of the final paper, project, or other materials

6. preparation of an oral presentation of the project

III. Preparation of Project Proposal

A. A Project Proposal should be completed and submitted to the Project Coordinator (for approval) and a copy forwarded to

the Program Director. The project proposal must include:

1. the title of the project and name of the Project Coordinator

2. a statement of the purpose of the project, including the objectives, the reasons for performing the project, and what

the student expects to accomplish

3. a plan for project implementation, including a description of what will be accomplished, how it will be done, and a

tentative timetable for completion of various stages of the project

4. a list of any limitations or constraints which may affect the project, if applicable

B. Proposals must be approved by the Project Coordinator and the Program Director. Unacceptable proposals must be

resubmitted .

IV. Implementation of the Project

A. The student will implement the project as outlined. Established deadlines must be met, unless unusual circumstances are documented by the Project Coordinator or the Program Director.

B. Minutes should be kept of all meetings between the student and the Project Coordinator.

1. Document any problems in project implementation (e.g. inability to obtain patient specimens, reagents, equipment,

etc .).

2. Document any canceled meetings, note the reason for cancellation, and select a date for rescheduling.

3. If the student or the Project Coordinator is concerned about the progress of the project, he/she should contact a CLEP

instructor or the Program Director.

C. Consult with the Project Coordinator or other resource person to select the best statistical method for analyzing the

project data, if applicable.

V. Written Report and Oral Presentation

After completion of the project, the student will be required to prepare and deliver a formal written and oral presentation of the project, as well as a poster presentation of the project. This should include the purpose of the project, an outline of the implementation of the project, and the outcome of the project.

A. The paper or written report should be completed in a manner suitable for submission to a professional journal. Preparation should include the following:

1. conduct a literature search

2. prepare an outline for the written paper, including a bibliography

and footnotes

3. write a draft of the paper or submit other project materials to the Project Coordinator for review. The draft

should be completed using a word processing program and submitted in a double spaced format for ease of revision. If the original draft is not well written or the project is incomplete, the student may be asked to rewrite it before it will be reviewed.

4. consult with the Project Coordinator and make any suggested revisions.

5. submit the revised copy of the paper or other project materials to the Project Coordinator and the Program

Director

B. The oral presentation (10-20 minutes) will be made to the class, CLEP instructors , and CLP personnel during the final week of the program. Any deviation from this format must be approved by the Project Coordinator and the Program Director in advance.

1. The best preparation for a good oral presentation is a well developed written report. Good visual materials should be used to enhance the presentation.

2. Practice the presentation to ensure comfortable delivery.

3. Students presenting projects and attending the presentations are expected to dress in appropriate professional attire.

VI. Grading Criteria

A. Each final written paper, final poster presentation and oral presentation will be evaluated by at least two faculty members (CLEP Instructors, Program Director, or College Coordinator) based on the Criteria for Evaluation of Student Project and Criteria for Evaluation of Student Project Presentation. An average of the grades will be used to calculate the final grade for each component.

B. EVALUATION OF STUDENT PROJECT PRESENTATIONS

Preparation (50 points)

1. clear statement of purpose of project (10 points)

2. knowledge of research/project subject (20 points)

3. organization , presentation in logical sequence (10points)

4. clear explanation and interpretation of data or integration of project materials into curriculum (10 points) Presentation (50 points)

1. shows interest in subject matter (10 points)
2. explains material concisely and thoroughly (10 points)
3. answers questions appropriately, based on level of experience(10 points)
4. good use of slides, overheads, etc. (10 points)
5. speaks clearly, exhibits professional manner (10 points)

C. EVALUATION OF STUDENT PROJECT: Written Report

1. Content (40 points)
 - a . clear introduction of purpose of project
 - b . methods and technical procedures clearly described
 - c . data presented succinctly in graphs, charts, tables, etc., if applicable
 - d . appropriate statistical methods selected, if applicable
 - e . conclusions organized, clear, and consistent with data
 - f . significance to laboratory division (work flow, cost analysis), if applicable
2. Achievement of objectives (20 points)
 - a . adherence to project proposal
 - b . completion of project objectives (expected sample number, well designed review module or demonstration)
3. Organization (20 points)
 - a . logical progression (introduction, methods, data, conclusions)
 - b . adherence to standard scientific style
4. References (10 points)
 - a . historical and current, if applicable
 - b . correctly documented and cited
5. Style (10 points)

- a . clear and concise
- b . correct grammar and spelling

D. EVALUATION OF STUDENT PROJECT: Poster Presentation

1. Content (40 points)

- a . clear introduction of purpose of project
- b . methods and technical procedures clearly described
- c . data presented succinctly in graphs, charts, tables, etc., if applicable
- d . appropriate statistical methods selected, if applicable
- e . conclusions organized, clear, and consistent with data
- f . significance to laboratory division (work flow, cost analysis), if applicable

2. Achievement of objectives (20 points)

- a . adherence to project proposal
- b . completion of project objectives (expected sample number, well designed review module or demonstration)

3. Organization (20 points)

- a . logical progression (introduction, methods, data, conclusions)
- b . adherence to standard scientific style

4. References (10 points)

- a . historical and current, if applicable
- b . correctly documented and cited

5. Style (10 points)

- a . clear and concise
- b . correct grammar and spelling