

Minnesota State University Moorhead

BCBT 410: Vaccinology Senior Seminar

A. COURSE DESCRIPTION

Credits: 1

Lecture Hours/Week: 2

Lab Hours/Week: *.*

OJT Hours/Week: *.*

Prerequisites:

This course requires the following prerequisite

BCBT 210 - Introduction to Vaccinology Seminar

Corequisites: None

MnTC Goals: None

This course will cover the vaccine types, delivery, efficacy, and safety. Students will learn about the mechanism of action of different vaccines; traditional versus modern vaccine production methods, the process of clinical trials and approval for new vaccines; and discuss ethical concerns related to vaccine use. The course is required for the Vaccinology Minor.

B. COURSE EFFECTIVE DATES: 08/22/2011 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

D. LEARNING OUTCOMES (General)

1. Describe the differences between live and inactivated vaccines.
2. Describe the signs and symptoms of adverse reactions to vaccines.
3. Discuss modern advances in vaccines including DNA, RNA, and microRNA vaccines.
4. Explain in detail appropriate techniques for administration of vaccines by the intramuscular, subcutaneous, and intranasal routes as well as available mechanical options for vaccine distribution via these routes.
5. Explain the basic concepts of immunology including the differences between active and passive immunity.
6. Understand the basic principles of clinical trial methodology in the area of vaccine development.
7. Understand the concepts, methods and challenges of technical operations and quality of vaccine manufacturing.
8. Understand the details of all the steps of operationally preparing and executing vaccine clinical trials.

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted