Berkshire Medical Center
School of Medical Technology

Course Syllabus

Course No. : MEDT 404
Course Title: Clinical Immunology/Serology

Credits: 1

Description:
Introduces the student to the immune system and the immune response. Discusses immune detection, immunodeficiency disorders, autoimmune diseases, hypersensitivity, and tumor and transplant immunology. Also discusses the serologic principles and diagnosis of infectious diseases. Discusses the antigen-antibody complex and the relationship to current testing methodology. Describes the controllable and non-controllable pre-analytical, analytical, and post-analytical variables that can affect testing. The student applies this theory in the clinical lab using current immunologic techniques and instrumentation to correlate lab results to disease processes.

Primary Didactic Instructor: Kari Murad, Ph.D.
Chemistry Supervisor
kmurad@bhs1.org
413-553-9029

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Additional Instructors: Lori Moore, M.Ed., MT(ASCP), Program Director
Special Chemistry/Serology Staff

Require Text: none

Reference text: Contemporary Clinical Immunology and Serology
K. Rittenhouse-Olson, E. De Nardin, 2013
Clinical Immunology and Serology, 3rd edition, Christine Dorresteyn Stevens, 2010
Clinical Laboratory Immunology, C. Mahon and D. Tice, 2006

Lecture: 9 Immunology lectures starting the first Wednesday in August
3 Serology lectures in the fall

Laboratory: 4 week clinical rotation in combination with the Special Chemistry Department.
**See individual student schedule for dates

Course Goals and Objectives

Based on the didactic material and clinical instruction students will score an average of 75% or better on evaluation tools (i.e. exams, evaluations, task lists, etc) to demonstrate competency of the following objectives.

Upon completion of the Immunology/Serology clinical and didactic course the student will:

1. Develop an entry-level knowledge of immunology/serology tests used in the clinical laboratory.
2. Describe the basic components of the human immune system and the body's immune response mechanisms to various disorders or disease states.
3. Describe the structure, function, and types of antibodies involved in the immune response.
4. Discuss the causes and consequences of immune system dysfunction.
5. Compare and contrast the 4 types of hypersensitivity reactions.
6. Discuss the role of complement in the immune response.
7. Outline the important components of transplantation immunology and discuss possible elements involved in rejection.
8. Discuss the various infectious diseases encountered in the immunology/serology lab.
9. Explain the principles and methods of each test performed in the immunology/ serology laboratory
   used to detect disease and explain the clinical significance.
10. Compare and contrast the different methods for testing used in the serology lab.
11. Explain the importance of quality control and apply it to the immunology/serology laboratory.
12. Determine appropriate specimen collection, processing, and analysis of body fluid specimens by following established procedures and resolve specimen issues.
13. Perform manual and automated testing on patient body fluids that result in valid laboratory results in the immunology/serology department.
14. Perform routine maintenance, quality control, and calibrations on instrumentation in the immunology/serology department following established procedures.
15. Evaluate quality control data and determine course of action when quality control falls outside of range.
16. Interpret laboratory data generated from the immunology/serology laboratory regarding test accuracy and abnormal values.
17. Evaluate laboratory data and give possible cause of diagnosis for patient results.
18. Organize workflow for efficiency in lab testing turn-around-times.
19. Practice established confidentiality guidelines.
20. Demonstrate professional and ethical conduct with all healthcare professionals, consumers, patients, and other laboratory students.

Basis for Student Evaluation

Lecture evaluation will consist of exams. The laboratory evaluation will consist of written exams, task lists, and evaluations. The final grade will be composed of 60% lecture and 40% laboratory.

Affective behaviors

Didactic

Following appropriate training, during didactic instruction the student will:

1. Exhibit professional behavior during didactic instruction.
2. Attend lectures in a timely manner.
3. Respect other students and members of the laboratory.
4. Contribute to a positive learning environment.
5. Demonstrate an interest in the subject matter.
6. Comply with hospital and laboratory dress code and personal appearance policies.
7. Comply with institutional policies concerning safety.
8. Cooperate when situations arise and there is a necessary change in lecture schedule.

Clinical

Following appropriate training, during clinical instruction the student will:

1. Comply with all hospital, laboratory, and school policies.
2. Demonstrate phone etiquette using BMC customer service standards.
3. Maintain a neat, clean, and orderly work area in the Serology department.
4. Value the advice and opinion of others.
5. Accept responsibility for his/her own actions.
6. Be dependable and punctual for the clinical experience.
7. Organize his/her time to complete assignments and daily training.
8. Accept constructive criticism and use it as a tool for improved performance.
9. Establish a good rapport with co-workers and uphold the concept of teamwork.