**Third Year Practical Virology Sessions (2015-2016)**

Lab -1- Introduction to practical virology & Methods of diagnosis of viral infections (Dr Arwa Mujahed)

Lab -2- Preparation of tissue culture. (Demonstration of how to prepare tissue culture, types of tissue cultures and inverted microscopy) (cell line culture) (Dr Asmaa Baqer)

Lab -3- Clinical specimens collection and handling (Demonstration of viral transport media and its main components, swaps, how to get plasma and serum separation by getting a sample from volunteer (Dr Arwa Mujahed)

Lab -4- Inoculation of clinical sample in tissue culture (Inoculation of herpetic lesion swap in epithelial cell culture, and demonstration of deferent cytoplathic changes) (Dr Asmaa Baqer)

Lab -5- Inoculation of clinical sample in embryo-egg (Inoculation of herpetic lesion swap in different routes in the check embryo, and demonstration of the cytopathic changes) (Dr Arwa Mujahed)

Lab -6- Inoculation of clinical sample in lab. Animals (Demonstration of how to inoculate a viral isolate from tissue culture into the peritoneal cavity on a laboratory mouse taken from the pharmacology department) (Dr Arwa Mujahed)

Lab -7- Viral Titration (Dr Arwa Mujahed)

Lab -8- Detection of viruses using EM and immuno-electon microscopy (IEM). (By collaboration with the Biology Department to demonstrate preparation of viral isolate from tissue culture into a grid to be examined under EM) (Dr Asmaa Baqer)

Lab -9- Indirect methods: serology (ELISA and hemagglutination inhibition test), Western Blot, & **RDT**. (Dr Arwa Mujahed)

Lab -10- Direct immunological assays: immunocytochemistry (ICC), Immunohisto-chemistry (IHC), and In situ hybridization (ISH). (How to send the sample for IHC examination by the surgeon, what is the principle of ICC and IHC, and the most important clinical applications of ICC & IHC) (Dr Asmaa Baqer)

Lab -11- Detection of viruses using polymerase chain reaction (PCR), and reverse transcriptase PCR (Dr Arwa Mujahed)

**Lab -12- Detection and quantification of viral load using Real time polymerase chain reaction (Dr Asmaa Baqer)**

**Lab -13- Clinical applications (Dr Ahmed Saheb)**

**Lab -14- Isolation, purification, and clinical applications of Bacteriophages. (Dr Ahmed Saheb)**

**Lab instructors:** Dr Asmaa Baqer, Dr Arwa Mujahed

**Subjects in bold are newly introduced Labs**