WHAT YOU NEED TO KNOW!

**Bacterial, Fungal and Viral Pathogens**

You should be familiar with the following information for each of the pathogens covered in the course.

1. General microbiology/virology of the organism. This includes its classification, morphology (e.g. on Gram stain), how it is identified (major biochemical tests, e.g. beta hemolysis for Group A streptococci).
3. Host-parasite interactions. Mechanisms of bacterial or viral virulence and their interaction with the host. What are the unique virulence factors associated with the pathogen? What is the host response to infection?
4. What are the most common clinical settings in which the pathogen is encountered?

**Antimicrobials, Antifungals and Antimycobacterial Agents**

The information as outlined below in general refers to "families" of compounds. This means that you will not be expected to know differences between specific drugs (e.g. gentamicin and tobramycin) which basically have the same pharmacology and mechanism of action. For the penicillins and cephalosporins you will be expected to know the differences between the "generations" of these antibiotics. For example, the third generation cephalosporins are more active against a wider variety of pathogens than the first generation cephalosporins.

1. What are the mechanisms of action for these drugs?
2. What are the mechanisms of resistance to these antibiotics?
3. Against which pathogens does the antimicrobial have activity?
4. What is the pharmacology of the compound? This includes: primary method of administration, distribution into different tissues and mode of excretion.
5. What are the major toxicities of the drug?
6. What are the general indications for its use?

**Infectious Diseases Syndromes**

The following information should be known for the different infectious diseases syndromes.

1. What are the pathogens most commonly associated with the disease?
2. What is the pathogenesis of the disease? This includes both bacterial/viral pathogenetic mechanisms as well as the host response to these pathogens.
3. What is the epidemiology of the disease? What are the predisposing factors that contribute to development of the disease? Are there seasonal or age-related issues associated with the disease?