Basic Science: Microbiology

The Basic Science Microbiology content outline includes:

|  |  |  |
| --- | --- | --- |
| ***General Principles*** | |  |
|  | Biochemistry, Molecular Biology, Genetics |  |
|  | Tissue Response to Disease |  |
|  | Pharmacodynamic/Pharmacokinetic Processes |  |
|  | Microbial Biology and Infection |  |
|  | Microbial classification and its basis |  |
|  | Bacteria and bacterial diseases |  |
|  | Viruses and viral diseases |  |
|  | Fungi and fungal infections |  |
|  | Parasites and parasitic diseases |  |
|  | Principles of sterilization and pure culture technique |  |
|  | Immune Responses |  |
| ***Organ Systems*** | |  |
| • | Hematopoietic &lymphoreticular |  |
| • | Central & peripheral nervous |  |
| • | Skin & related connective tissue |  |
| • | Musculoskeletal |  |
| • | Respiratory |  |
| • | Cardiovascular |  |
| • | Gastrointestinal |  |
| • | Renal/urinary |  |
| • | Reproductive |  |
| ***Immunology Module*** | |  |
| • | Immunologic Processes |  |
| • | Immunologic Diseases |  |

Basic Science: Biochemistry

The Basic Science Biochemistry content outline includes:

|  |  |
| --- | --- |
| **Topic** |  |
| Gene expression: DNA structure, replication, and exchange |  |
| Gene expression: transcription (including defects) |  |
| Gene expression: translation (including defects) |  |
| Structure and function of proteins |  |
| Energy metabolism |  |
| Metabolic pathways of small molecules |  |
| Biology of cells |  |
| Human development and genetics |  |
| Biology of tissue response to disease |  |
| Nutrition |  |
| Pharmacodynamic and pharmacokinetic processes |  |
| Normal processes |  |
| Hematopoietic &lymphoreticular system |  |
| Central & peripheral nervous system |  |
| Endocrine system |  |

Basic Science: Pathology

The Basic Science Pathology content outline includes:

|  |  |  |
| --- | --- | --- |
| ***General Principles*** | |  |
|  | Cell Biology |  |
|  | Human Development and Genetics |  |
|  | Biology of Tissue Response |  |
|  | Multisystem Processes |  |
|  | Microbial Biology and Infection |  |
|  | Immune Responses |  |
| ***Organ Systems*** | |  |
|  | Hematopoietic &lymphoreticular |  |
|  | Central & peripheral nervous |  |
|  | Skin & related connective tissue |  |
|  | Musculoskeletal |  |
|  | Respiratory |  |
|  | Cardiovascular |  |
|  | Gastrointestinal |  |
|  | Renal/urinary |  |
|  | Reproductive |  |
|  | Endocrine |  |

Basic Science: Pharmacology

The Basic Science Pharmacology content outline includes:

|  |  |  |
| --- | --- | --- |
| ***General Principles*** | |  |
|  | Pharmacokinetics, Pharmacodynamics |  |
|  | Antimicrobial Drugs |  |
|  | Carcinogens, Environmental Insults, Antineoplastic/Immunosuppressant Drugs |  |
| ***Organ Systems (including mechanism of action, therapy, adverse effect)*** | |  |
|  | Hematopoietic &lymphoreticular |  |
|  | Central & peripheral nervous |  |
|  | Anesthetics |  |
|  | Hypnotics |  |
|  | Psychopharmacologic agents |  |
|  | Anticonvulsants |  |
|  | Stimulants, amphetamines |  |
|  | Antiparkinsonian drugs |  |
|  | Botulinum toxin |  |
|  | Neuromuscular junction blocking agents |  |
|  | Antiglaucoma drugs |  |
|  | Drugs used to decrease intracranial pressure |  |
|  | Antimigraine agents |  |
|  | Drugs affecting autonomic nervous system |  |
|  | Skin & related connective tissue |  |
|  | Musculoskeletal |  |
|  | Respiratory |  |
|  | Cardiovascular |  |
|  | Gastrointestinal |  |
|  | Renal/urinary |  |
|  | Reproductive |  |
|  | Endocrine |  |