Dear Student,

Welcome to your first year at the CNM!

During this first year you will study human sciences and biomedicine.

This course will give you an in-depth understanding of basic science, anatomy, physiology, pathology, as well as differential diagnosis and clinical diagnostic skills.

All course material can be found on the student website.

This Learning Guide sets out the topics to be studied following the lecture sequence.

Reading List

<table>
<thead>
<tr>
<th>TITLE</th>
<th>AUTHOR</th>
<th>ISBN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principles of Anatomy &amp; Physiology (14th ed.)**</td>
<td>G.J. Tortora &amp; Derrickson, 2013</td>
<td>9781118808436</td>
</tr>
<tr>
<td>Gould’s Pathophysiology for the Health Professions** (5th ed.)</td>
<td>K C VanMeter &amp; R J Hubert, 2014</td>
<td>9781455754113</td>
</tr>
<tr>
<td>Mosby’s Dictionary of Medicine, Nursing and Health Professions** (9th ed.)</td>
<td>Mosby, 2012</td>
<td>9780323074032</td>
</tr>
<tr>
<td>NOTE: The Merck Manual online is FREE and can be used as an alternative: <a href="http://www.merckmanuals.com/professional/index.html?searchTerms">http://www.merckmanuals.com/professional/index.html?searchTerms</a></td>
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<tr>
<td>British National Formulary (latest volume)</td>
<td>BNF, 2013</td>
<td>978057110861</td>
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</table>

** An older version of this book (at a lower cost) can be used for the subject. *Only available in the UK.

For background reading, we can recommend the following books:

3. Wynn Kapit: The Anatomy Colouring Book, Benjamin Cummings
4. Wynn Kapit: The Physiology Colouring Book, Benjamin Cummings

Other useful resources:

UK: www.naturopathy-uk.com
Ireland: www.naturopathy.ie
South Africa: cnmsouthafrica.co.za
- **CNM DVD Course**, Dr. Neil Slade, PhD: All you Really Need To Know about Anatomy, Physiology and Pathology, CNM. (Please contact Head Office on 01342 410 505 and ask for special offer)

**Study Tips**

You may feel a bit rusty with your study skills and maybe a bit overwhelmed at first, this is normal, but we are here to help you get you back in to studying.

On the student website there is information available to you in ‘Resources’ on tips to study and referencing – have a look!

To be successful in your studies and understand what you are learning so that you can apply this knowledge please go by the following:

1) Be interested in what you are studying.
2) Understand what you are studying (memorising things to pass exams is not studying).
3) Always study keeping application in mind – could you apply what you are learning.

**How to study:**

1. **Look up each word you don’t understand!**
   
   Make sure you understand the meaning of all words and all terminology on your course. It has been proven that words that are not correctly understood cause more problems for students than any other factor.

2. **Make drawings and use colour or models to get a practical understanding**
   
   Always make drawings or use diagrams, illustrations, photographs or models to give yourself a practical understanding of the term, organ, sequence of actions, etc. This will help you immeasurably in understanding the subject.

3. **Exams and Study Material**
   
   Make sure you attend lectures because you will learn a lot more than just reading lecture notes!

   Use all available resources – you can find pictures and **self-check quizzes & exercises** on the website for each of the topics covered! Also, there are **practice exams** and **revision guidelines** to help you with what material to study for the exams.

4. **Textbooks**
   
   The textbooks you are recommended for the Biomedicine year are **not essential** but highly recommended. They are a very useful reference for any material you feel you need to read more up on to get a complete understanding. You will also find them useful for your future studies and when you are practising.

   If you have any questions about any of the material or assessments please ask your lecturer or Director of Studies (DoS) – they are here to help you!
1st Semester: Human Sciences

Day 1

Cytology- Basic Genetics-Histology

Introduction
Characteristics of life, principle of homeostasis, example of a negative and positive feedback system, levels of body organisation, the systems of the human body, body cavities.

Read the relevant topics in chapter 1 of your Tortora text book and do the exercises which apply at the end of the chapter.

Cytology
Short repetition of the cell: The plasma membrane, cytoplasm, nucleus, mitochondria, endoplasmic reticulum – rough and smooth, ribosomes, Golgi apparatus, lysosomes, vesicles and vacuoles, processes of exo- and endophagocytosis, exo- and endopinocytosis. microtubules, centrioles.

Read the relevant topics in chapter 3 of your Tortora text book and do the exercises which apply at the end of the chapter.

Basic genetics
Chromosomes, DNA and the genetic code, cell division, gene expression – protein synthesis

Read the relevant topics in chapter 2 and 3 of your Tortora text book and do the exercises which apply at the end of the chapters.

Histology
Types of tissue, cell junctions, main types of tissue in the body: epithelial, connective, muscle and nervous tissue, glands, membranes

Read the relevant topics in chapter 4 of your Tortora text book and do the exercises which apply at the end of the chapter.

If you want to repeat the whole lecture you have the possibility to watch the DVD Medical Terminology/Cytology and Tissue&Organs, which can be purchased from the CNM.
Day 2
Terminology-Landmarks-Skeletal System

Introduction
Anatomical Terminology, Body Positions, Planes & Sections, Directional Terms
Read the relevant topics in chapter 1 of your Tortora text book and do the exercises which apply at the end of the chapter

Bone structure and development
Histology, bone formation, bone growth, bone and homeostasis, exercise and bone tissue
Skeletal system
Divisions of the skeletal system, types of bones, axial skeleton, structure and function of intervertebral discs / herniation appendicular skeleton, names of bones.
Joints
Structure, location and mode of action of – suture, synovial, ball and socket, pivot, gliding and hinge joints, role of bursas.
Read the relevant topics in chapter 6, 7, 8, 9 of your Tortora text book and do the exercises which apply at the end of each chapter

Physical examination
Palpation and marking of bone structures on the body surface, introduction into the basic interpretation of bone x-rays pictures
Read the relevant topics in chapter 1 (medical imaging) of your Tortora text book and do the exercises which apply at the end of each chapter. Also see surface anatomy in the supplement booklet "Brief Atlas of the Skeletal System"

Conditions of the Bones
Fractures – events at fracture and process of healing, osteoporosis, rickets and osteomalacia, osteomyelitis, hypercalcaemia, development abnormalities: spina bifida.

Conditions of the Joints
Sprains and strains, dislocations, vertebral abnormalities: kyphosis, lordosis, scoliosis, slipped disk, bursitis, osteoarthritis (OA), rheumatoid arthritis (RA), gout, ankylosing spondylitis.
Read the relevant topics in chapter 26 of your Pathophysiology book and do the study questions which apply at the end of the chapter.

If you want to repeat the whole lecture you have the possibility to watch the DVD The Skeletal System, which can be purchased from the CNM.

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<tr>
<th>Lecture and minimum study requirements</th>
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**Day 3**

**The Muscular System**

Functions of the muscular system.
Skeletal muscle tissue: Microscopic anatomy, contraction and relaxation, muscle metabolism, exercise and skeletal muscle tissue
Cardiac muscle tissue, smooth muscle tissue, regeneration of muscle tissue.

Read the relevant topics in chapter 10 of your Tortora text book and do the exercises which apply at the end of the chapter.

How skeletal muscles produce movement, naming of skeletal muscles, principal skeletal muscles, contribution of the muscular system to homeostasis.

Read the relevant topics in chapter 11 of your Tortora text book and do the exercises which apply at the end of the chapter.

**Physical examination**

Palpation and marking of major muscles on the body surface, strength testing.

Read the relevant topics in the supplement booklet “Brief Atlas of the Skeleton”

**Diseases of the Muscles**

Soft tissue strains and tears, impingement syndrome, Carpal tunnel syndrome, myopathies – Duchenne, myotonic, facio-scapulo-humeral, Fibromyalgia

Read the relevant topics in chapter 11 and 11 of your Tortora text book and chapter 26 of your Pathophysiology book and do the exercises which apply at the end of each chapter.

If you want to repeat the whole lecture you have the possibility to watch the DVD The Muscular System, which can be purchased from the CNM.
Day 4

The Respiratory System
Functions of the Respiratory System
Respiratory System Anatomy:
Nose and sinuses, pharynx, larynx, Trachea, bronchi/bronchioles, lungs, muscles of respiration – intercostal muscles, diaphragm, sternocleidomastoid.
Pulmonary Ventilation:
mechanism of inspiration and expiration, factors affecting pulmonary ventilation.
Lung volumes and capacities
Exchange of respiratory gases
External – internal respiration, transport of gasses in the blood stream control of respiration.
Contribution of the respiratory system to homeostasis

Read the relevant topics
in chapter 23 of your Tortora text book and
do the exercises which apply
at the end of the chapter

Biochemistry: pH, buffers
Read the relevant topics
in chapter 27 of your Tortora text book and
do the exercises which apply
at the end of the chapter

Cell respiration:
Brief overview of the mechanisms of glycolysis, Krebs cycle and oxidative phosphorylation, structure and function of ATP

Read the relevant topics
in chapter 25 of your Tortora text book and
do the exercises which apply
at the end of the chapter

Physical examination
Auscultation of lungs, percussion of the lungs

Read the relevant topics
in your “Pocket Guide to Clinical Examination”

Disorders of the Respiratory System
Common cold and influenza, upper respiratory tract infections:
Sinusitis, polyps, tonsillitis, pharyngitis, laryngitis.
Rhinitis, Bronchitis, acute asthma – Intrinsic and extrinsic, COPD—emphysema & Chr Bronchitis, lung fibrosis, Pneumothorax and pulmonary collapse, pleurisy, pulmonary embolism.

Read the relevant topics
in chapter 19 of your Pathophysiology book
and do the study questions which apply
at the end of the chapter.

If you want to repeat the whole lecture you have the possibility to
watch the DVD The Respiratory System, which can be purchased from the CNM.

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Mini-Exam (Cytology & Musculo-skeletal Syst.)

Day 5 and 6
BLOOD-CARDIOVASCULAR-CIRCULATORY SYSTEM

1) BLOOD
Blood cells:
Blood cells, formation of blood cells, blood groups, Rhesus factor
Functions. Blood Clotting.

Read the relevant topics in chapter 19 of your Tortora text book and do the exercises which apply at the end of the chapter

Diseases of the Blood
Erythrocyte disorders, anaemias: iron deficiency and megaloblastic anaemia
Leukocyte disorders: granulocytopenia

Read the relevant topics in chapter 17 of your Pathophysiology book and do the study questions which apply at the end of the chapter.

2) CARDIOVASCULAR SYSTEM: HEART AND BLOOD VESSELS
Blood Vessels: arteries, veins, capillaries / sinusoids, blood supply: movement of substances between capillaries and cells.
Vasodilation/vasoconstriction.
Major arteries and veins, portal circulation, pulses, blood pressure, shock.
Contribution of the cardio-vascular system to homeostasis

Read the relevant topics in chapter 21 of your Tortora text book and do the exercises which apply at the end of the chapter

The Heart: blood flow through the heart, heart valves, coronary arteries, conducting system, cardiac cycle (systole/diastole), venous return.

Read the relevant topics in chapter 20 of your Tortora text book and do the exercises which apply at the end of the chapter

Physical examination
Palpation of pulses – carotid, radial, femoral, dorsalis pedis, auscultation of the heart,
taking blood pressure using a sphygmomanometer and stethoscope.

Read the relevant topics in your “Pocket Guide to Clinical Examination”

Disorders of the cardiovascular system

Diseases of Blood Vessels:
Atheroma, arteriosclerosis, intermittent claudication, ischaemic heart disease (angina pectoris, myocardial infarction), cerebral infarction, aneurysm, varicose veins, venous thrombosis, Raynaud’s syndrome, oedema hypertension.

Diseases of the Heart
Cardiac failure – acute/chronic, disorders of the heart valves (one example), arrhythmias (bradycardia, tachycardia), endocarditis and pericarditis.

Read the relevant topics in chapter 18 of your Pathophysiology book and do the study questions which apply at the end of the chapter.

If you want to repeat the whole lecture you have the possibility to watch the DVD The Cardiovascular System, which can be purchased from the CNM.
Day 7 and 8
The Digestive System
Main organs, basic structure and main function of the digestive tract
Mouth: Anatomy and Physiology:
Teeth, palatine tonsils, chewing and swallowing, role of the tongue, salivary glands and saliva composition/function/excretion. Enzymes, pH
Pharynx, Oesophagus: Anatomy and Physiology
Stomach: Regions of the stomach, layers of the stomach walls,
Gastric secretions: composition & role, protective mechanisms from “self-digestion”, stomach emptying,
gastric acid secretion, roles of gastrin and CCK.
Small intestine: Duodenum, jejunum, ileum, enzymes secreted in each region and their action, relationship between duodenum and the liver, pancreas and biliary apparatus,
Structure of villi and microvilli, mechanisms of absorption, Immune protection in the small intestine – Peyer’s patches.
Pancreas: Structure, the pancreas as an exocrine gland, Pancreatic juice – composition and function.
Liver and biliary system:
Structure of both, hepatocytes and Kupffer cells, components of bile and their function in digestion, role of the liver in: carbohydrate, protein & lipid metabolism, formation of plasma proteins, bile and bilirubin production, deamination of amino acids, storage of vitamins, detoxification, heat regulation.
Digestion in the small intestine Large intestine: Caecum, appendix, ascending, transverse, descending and sigmoid colon, rectum and anus. Absorption in the colon, action of microflora, formation of faeces, mechanism of egestion.
Contribution of the digestive system to homeostasis
Read the relevant topics in chapter 24 of your Tortora text book and do the exercises which apply at the end of the chapter

Physical examination
Palpation of the abdomen, percussion of the abdomen.
Read the relevant topics in your “Pocket Guide to Clinical Examination”

Disorders of the Digestive System
Diseases of the mouth: Oral thrush, mouth ulcers, angular cheilitis,
Diseases of the salivary glands: calculi.
Congenital defects: cleft palate, hare lip, mouth cancers.
Pharynx: Tonsillitis
Oesophagus: Oesophageal varices, reflux oesophagitis (GERD), hiatus hernia
Stomach: Gastritis: acute and chronic, peptic ulceration, dumping syndrome.
Diseases of the Intestines:
Ulceration of the duodenum (also cover oesophagus), appendicitis, dysentery/diarrhoea, irritable bowel syndrome (IBS), Crohn’s disease, ulcerative colitis, celiac disease, Diverticulosis, hernias.
Diseases of the Pancreas: Pancreatitis
Diseases of the Liver and Biliary System:
Cirrhosis of the liver, cholelithiasis, ascites.

Read the relevant topics in chapter 20 of your Pathophysiology book and do the study questions which apply at the end of the chapter.

If you want to repeat the whole lecture you have the possibility to watch the DVD The Digestive System, which can be purchased from the CNM.
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**Day 9**

**The Endocrine System**

The endocrine system as a communication system, in comparison to others, definition of a hormone and general mode of action, endocrine- exocrine glands.

**Hormonal glands**

Hypothalamus and pituitary gland:
- Coordination pituitary gland and hypothalamus
- Pituitary gland: Anterior: GH, TSH, FSH, PRL, ACTH, LH, and MSH
- Posterior: ADH, vasopressin, oxytocin
- Repetition and application of positive feedback systems

Thyroid gland:
- Thyroxin, triiodothyronine, calcitonin
- Repetition and application of negative feedback systems

Parathyroid glands: parathyroid hormone (PTH)

Adrenal glands:
- Cortex: glucocorticoids and mineralocorticoids,
- Medulla: adrenaline, noradrenaline.

Pancreatic islets: insulin, glucagons

Pineal gland: melatonin

Thymus gland: thymosin

Local hormones

Contribution of the endocrine system to homeostasis

Read the relevant topics in chapter 18 of your Tortora text book and do the exercises which apply at the end of the chapter.

**Disorders of the Endocrine System**

- Diseases of the pituitary gland: Acromegaly, gigantism, diabetes insipidus
- Diseases of the thyroid gland
  - Hyperthyroidism (thyrotoxicosis), Grave’s disease
  - Hypothyroidism, Barnes Temperature test
- Disorders of the parathyroid glands
  - Hypoparathyroidism

**Diseases of the Adrenals**

- Cushing Syndrome
- Pathological effects of steroid therapy
- Addison’s disease

**Diseases of the islets of Langerhans**

- Diabetes – types I and II, other forms
- Hypoglycaemia

Read the relevant topics in chapter 25 of your Pathophysiology book and do the study questions which apply at the end of the chapter.

If you want to repeat the whole lecture you have the possibility to watch the DVD The Endocrine System, which can be purchased from the CNM.
Lecture and minimum study requirements  

**Day 10**

**Skin and Lymphatic System**

**Skin**
- Epidermis – stratum corneum, lucidum, granulosum, spinosum, basale.
- Dermis – sensory nerve endings, blood vessels & lymph capillaries, sweat glands, hair follicles, sebaceous glands, arrector pili muscles.
- Adipose layer – distribution & fat cells.
- Nails.
- Functions of the skin.
- Principles of wound healing.
- Contribution of the skin to homeostasis.

Read the relevant topics in chapter 5 of your Tortora textbook and do the exercises which apply at the end of the chapter.

**Physical examination**
- Appearance of the skin – examination of various lesions, colour, texture
- Distribution of hair

Read the relevant topics in your “Pocket Guide to Clinical Examination”

**Disorders of the Skin**
- Description of various lesions- Macule, papule, nodule, pustule, vesicle, fissure, ulcer, comedone etc.
- Diseases of the skin: Urticaria, contact and atopic dermatitis, psoriasis (psoriatic arthritis), acne – vulgaris and rosacea, warts, vitiligo, burns.

Read the relevant topics in chapter 27 of your Pathophysiology book and do the study questions which apply at the end of the chapter.

**Lymphatic System**
- Structure of lymphatic vessels, structure of lymph nodes, composition of lymph, relationship between the lymphatic and circulatory systems, other lymphatic tissues – tonsils, adenoids, thymus, appendix, Peyer’s patches, spleen.
- Drainage of tissue fluid, defence, transport of fats.
- Mechanisms of lymph movement:
  - Hydrostatic pressure, muscle contraction, inspiratory movements.

Read the relevant topics in chapter 22 of your Tortora textbook and do the exercises which apply at the end of the chapter.

**Physical examination**
- Palpation of lymph nodes – cervical, axillary and inguinal

Read the relevant topics in your “Pocket Guide to Clinical Examination”

**Diseases of the Lymphatic System**
- Lymphangitis, lymphatic obstruction and lymphoedema, spread of disease, lymphadenitis, splenomegaly, splenektomy

Read the relevant topics in chapter 17 of your Pathophysiology book and do the study questions which apply at the end of the chapter.

If you want to repeat the whole lecture you have the possibility to watch the DVD The Skin (The Immune System is included in the Cardiovascular DVDs), which can be purchased from the CNM.
Day 11
The Urinary System
Structure of the urinary system:
Overview, kidneys, ureter, urinary bladder, micturition reflex, urethra
Function of the urinary system: Excretion of toxic products, fluid balance,
Renin-Angiotensin-aldosterone-system, application of homeostasis and feedback systems, hormone production of the kidneys.
The Nephron: formation of urine, glomerular filtration, tubular reabsorption, tubular secretion.
Electrolytes: definition of an electrolyte, composition of electrolytes in the body, electrolytes, osmoregulation and blood volume, PH regulation
Self regulation of the kidneys: ADH system, role of the kidneys in blood pressure homeostasis.

Contribution of the urinary system to homeostasis

Read the relevant topics in chapter 26 of your Tortora text book and do the exercises which apply at the end of the chapter

Physical examination
Percussion, urine analysis, face diagnosis

Read the relevant topics in your “Pocket Guide to Clinical Examination”

Diseases of the Lymphatic System
Terminology
Cystitis: acute – chronic
Glomerulonephritis: acute – chronic
Nephrotic syndrome
The diabetic kidney
Hypertension
Pyelonephritis: acute – chronic
Renal calculi, polycystic kidneys
Diuretic drugs, dialysis

Read the relevant topics in chapter 21 of your Pathophysiology book and do the study questions which apply at the end of the chapter.

If you want to repeat the whole lecture you have the possibility to watch the DVD The Urinary System, which can be purchased from the CNM.
Day 12
The Reproductive System

Introduction: Asexual vs. sexual reproduction,
Gametes, repeat: Mitosis, introduction meiosis, comparison

Details of the Female Reproductive System:
External and internal female genitalia,
uterus, uterine tubes, ovaries,
menopause, mammary glands
Menstrual cycle:
Overview of the cycle, roles of oestrogen, FSH, LH and progesterone,
interactions between hormones and feedback mechanisms.
Conception, pregnancy and lactation:
Overview of foetal development, placental development,
Parturition, breast development and milk production.
Puberty and Menopause:
Alterations in hormonal balances, puberty,
problems associated with menopause.

Details of the Male Reproductive System:
The male reproductive system, function of the testes,
sperm, the penis, ejaculation.

Read the relevant topics
in chapter 28 of your Tortora text book and
do the exercises which apply
at the end of the chapter

Disorders of the Reproductive System

Diseases of the Female Reproductive System:
Menstruation abnormalities, pelvic inflammatory disease and vaginal discharges,
Endometriosis, fibroids, ovarian and mammary cysts,
PCOS, ectopic pregnancy, infertility

Diseases of the Male Reproductive System:
Phimosis, infections of the urinary tract, epididymis and the testes,
undescended testicles, testicular torsion, infertility, impotence,
BPH, testicular cancer

Read the relevant topics
in chapter 28 of your Pathophysiology book
and do the study questions which apply
at the end of the chapter.

If you want to repeat the whole lecture you have the possibility to
watch the DVD The Reproductive System, which can be purchased from the CNM.
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<td><strong>The Nervous System</strong></td>
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<tr>
<td>Structure of the Nervous System:</td>
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<tr>
<td>General structure, neurons, myelination</td>
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<tr>
<td>Transmission of a nerve impulse:</td>
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<tr>
<td>Membrane potential, RP, AP, refractory period, saltatory conduction.</td>
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<tr>
<td>Synapse: Structure and mode of action,</td>
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<td>Function, neurotransmitters.</td>
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<tr>
<td>Central Nervous System:</td>
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<td>Structure of the brain – cerebrum, thalamus, hypothalamus, pons, cerebellum, medulla oblongata, pineal gland, neuroglia, meninges, ventricles, CSF, cranial nerves, the spinal cord, reflexes.</td>
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<td>Peripheral Nervous System:</td>
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<tr>
<td>Spinal nerves, cranial nerves, autonomic nervous system, neurone damage and regeneration.</td>
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<tr>
<td>Contribution of the nervous system to homeostasis</td>
<td>Read the relevant topics in chapter 12, 13, 14 15 and 16 of your Tortora text book and do the exercises which apply at the end of the chapter</td>
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<tr>
<td><strong>Physical examination</strong></td>
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<tr>
<td>Reflex testing</td>
<td>Read the relevant topics in your “Pocket Guide to Clinical Examination”</td>
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<tr>
<td><strong>Disorders of the Nervous System</strong></td>
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<td>Brain diseases:</td>
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<td>Increased intracranial pressure, hydrocephalus, head injuries, cerebrovascular accident/ transient ischaemic attack, Alzheimer’s disease, Parkinson's disease, headaches/ migraine, benign brain tumours, epilepsy, meningitis.</td>
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<td>Demyelinating conditions: Multiple sclerosis (MS)</td>
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<td>Nerve disorders: Neuritis: sciatica, trigeminal, Bells’ Palsy, nerve trauma</td>
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<td>Genetic Abnormalities:</td>
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<td>Spina bifida, phenylketonuria</td>
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<td>Read the relevant topics in chapter 22 and 23 of your Pathophysiology book and do the study questions which apply at the end of the chapter.</td>
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If you want to repeat the whole lecture you have the possibility to watch the DVD Nervous System, which can be purchased from the CNM.
Day 15
The Immune System

Introduction:
Functions of the immune system, its relationship to the circulatory and lymphatic systems.

Anatomy and Physiology of the immune system:
Cells of the immune system and their function.
Leukocytes: Granulocytes: neutrophils, eosinophil’s, basophils
Agranulocytes: Lymphocytes, monocytes
Plasma cells
Mast cells- macrophages

Chemical mediators: cytokines

Non-specific defence mechanisms:
Defence at body surfaces, natural anti-microbial substances, the inflammatory response.

Specific immunity:
cell mediated, anti-body mediated, acquired immunity,
recognition of “self” and “non-self” and autoimmune conditions,
vaccination: active and passive immunization.

Homeostasis: The lymphatic and the immune system

Read the relevant topics
in chapter 22 of your Tortora text book and
do the exercises which apply
at the end of the chapter

Disorders of the Immune System

Infectious diseases (covered in separate lecture),
allergies: rhinitis, hayfever, food allergies, anaphylactic shock,
food allergies - food intolerances,
Autoimmune conditions: RA, lupus erythematosus (SLE),
ankylosing spondylitis, thyroiditis, AIDS (covered in separate lecture)

Read the relevant topics
in chapter 3 of your Pathophysiology book
and do the study questions which apply
at the end of the chapter.

If you want to repeat the whole lecture you have the possibility to
watch the DVD The Immune System, which can be purchased from the CNM.
Day 16
Infectious Diseases

Introduction: principles of infection,
Microorganisms, basics of microbiology,
causes of infections: different microorganisms,
transmission of infection.

General study of infection:
Terminology, transmission and control of transmission,
basics of hygiene (disinfection, sterilisation, pasteurization).
Infectious diseases: Prevention and control
Food and water borne diseases and their control
Infectious disease biology:
manifestations, systemic responses

Read the relevant topics
in chapter 4 of your Pathophysiology book
and do the study questions which apply
at the end of the chapter.

Infectious Diseases Pathology

Superficial infections: erysipelas, impetigo, candidiasis
Abscesses
Infections in compromised host: HIV and AIDS
Bacterial diseases: diphtheria, food poisoning / dysentery (amoeba, salmonella, E.coli),
meningitis, (Scarlet fever), tuberculosis, whooping cough
Systemic fungal diseases: Systemic candidiasis
Chlamydial diseases: chlamydia infection, STD
Viral diseases: measles, mumps, rubella, chicken pox, viral hepatitis,
Poliomyelitis, (flu is covered in Respiratory System)
Herpes simplex and zoster
Parasitic diseases: malaria
Sexually transmitted diseases: gonorrhoea, syphilis,
Trichomoniasis, genital herpes, genital candidiasis,
genital warts

Unfortunately the books from your reading list
do not offer this selection of disorders in
one chapter. Please look up these diseases
in the index of your Tortora and
Pathophysiology book and study them.

If you want to repeat the whole lecture you have the possibility to
watch the DVD Infectious Diseases, which can be purchased from the CNM.
Day 17
Oncology

Introduction: definition of oncology,
  normal cells and cell cycle, changes in cells,
  benign and malignant tumours.

Pathophysiology:
malignant tumours, early warning signs, local effects,
systemic effects, diagnostic tests, spread of malignant tumours,
staging, aetiology: carcinogenesis,
carcinogens, risk factors and prevention

Diagnostic tests – merits and usefulness
Palpation, blood tests – tumour markers e.g. PSA, AFP,
scans – US, MRI etc.,
x-rays

Treatment of malignant tumours
Surgery, chemotherapy, radiation,
other drugs (hormones),
b Brief insight into complementary approaches,
prognosis

Pathology
Epidemiology, pathophysiology, sign and symptoms and prognosis
of selected forms of cancer:
General symptoms
Selected forms of cancers (in order of epidemiological importance and
organ systems)
Lung cancer, colo-rectal cancer, breast cancer, ovarian cancer,
cervical cancer, liver cancer, stomach cancer, oesophagus cancer,
pancreas cancer, prostate cancer, bladder cancer,
testicular cancer, skin cancer, leukaemia

Read the relevant topics
in chapter 5 of your Pathophysiology book
and do the study questions which apply
at the end of the chapter.
Also look up these diseases
in the index of your Tortora and study them.

If you want to repeat the whole lecture you have the possibility to
watch the DVD Oncology, which can be purchased from the CNM.
Lecture and minimum study requirements

Day 18

Special Senses
Introduction

The ear: structure of the ear, physiology of hearing, physiology of balance

Structure of the eye:
- protection of the eye: lids, lashes, eyebrows, tear apparatus,
- layers of the eye: sclera, choroids, retina, cornea, conjunctiva, lens apparatus and iris.

Physiology of the eye:
- transduction of light energy to nerve impulses, role of rods and cones, rhodopsin, processes of accommodation, control of light entering the eye

Structure of the nose and sinuses
Physiology of smell
Structure of the tongue
Physiology of taste

Read the relevant topics in chapter 17 of your Tortora text book and do the exercises which apply at the end of the chapter

Physical examination
- Use of an ophthalmoscope, use of an otoscope

Read the relevant topics in your “Pocket Guide to Clinical Examination”

Pathology

Diseases of the Ear: otitis externa, otitis media, glue ear, meniere’s disease, tinnitus, Labyrinthitis, deafness

Diseases of the Eye: blepharitis, conjunctivitis, uveitis, Stye, corneal ulcer, strabismus, cataract, ageing effect on vision, Glaucoma, floaters, retinal detachment.

Conditions of the Nose (can be taught under respiratory system):
- Sinusitis, polyps

Read the relevant topics in chapter 24 and 19 of your Pathophysiology book and do the study questions which apply at the end of the chapter.

If you want to repeat the whole lecture you have the possibility to watch the DVD Special Senses, which can be purchased from the CNM.
<table>
<thead>
<tr>
<th><strong>Day 19</strong></th>
<th><strong>Pharmacology</strong></th>
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<tbody>
<tr>
<td><strong>Introduction:</strong> definition, naming of drugs, classification of drugs: OCM, POM, CD</td>
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<tr>
<td><strong>General Pharmacology:</strong> drug effects, administration of drugs, dosage regimes, chrono-pharmacology, distribution and transport of drugs in the body</td>
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<td><strong>Elimination</strong></td>
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<td><strong>Drugs and receptors</strong></td>
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<td><strong>Adverse effects of drugs</strong></td>
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<td><strong>Drug interactions</strong></td>
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<td><strong>Herb / food / drug interactions</strong></td>
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<td><strong>Drug management issues (benefits and limitations of drugs, responsible advice for patients on POM and coming off drugs)</strong></td>
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<td><strong>Short introduction into Specific therapies</strong></td>
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<td>Phytotherapy, Herbal Medicine</td>
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<td>Homeopathy</td>
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<td>Read the relevant topics in chapter 16 of your Pathophysiology book and do the study questions which apply at the end of the chapter.</td>
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<tr>
<td><strong>Using the BNF and other drug resources</strong></td>
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<tr>
<td>Get familiar with the BNF = British National Formulary and train using it</td>
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<td><strong>Selected examples from the following drugs groups (based on the BNF)</strong></td>
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<tr>
<td>Gastro-intestinal system</td>
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<td>Cardiovascular system</td>
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<td>Respiratory system</td>
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<td>Central nervous system</td>
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<td>Infections</td>
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<td>Endocrine system</td>
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<td>Urinary tract disorders</td>
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<td>Drugs for malignant disease and immune suppression</td>
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<td>Nutrition and blood</td>
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<td>Muscular-skeletal and joint diseases</td>
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<td>Eye</td>
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<td>Ear, nose and throat</td>
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<td>Skin</td>
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<td>Anaesthetics</td>
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<tr>
<td>Read the relevant topics in the BNF.</td>
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<tr>
<td>Read special course handouts.</td>
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If you want to repeat the whole lecture you have the possibility to watch the DVD Pharmacology, which can be purchased from the CNM.
Day 20

Laboratory

Introduction: Relevance of lab results, most common orthodox and complementary laboratory investigations

Selected laboratory investigations, relevant for complementary therapists

Interpretation of orthodox medical test results:

Blood analysis
- Interpretation of selected parameters with the help of a reference manual
- Erythrocyte sedimentation rate (ESR).
- Relevance of tumour markers
- Assessing examples of anonymous blood test results
- Finger prick test for diabetes stick test
- Examples for laboratory services

Urine analysis: Stick test
- Indications
- Self test + interpretation
- Diagnostic table for kidney diseases
- Examples for test suppliers

Scans and X-rays:
- X-rays.
- Ultrasound scans.
- MRI.
- CT scans

Complementary medicine tests and laboratories:
- Food intolerance testing – via finger prick.

Saliva analysis
- Applications
- Adrenal stress index (ASI)
- Female hormone panel
- Assessing examples of anonymous saliva test results
- Examples for laboratory services

Hair mineral analysis
- Indications
- Interpretation of examples
- Examples for test services

Stool analysis
- Indications
- Test examples and interpretations of results:
  - Colour and consistency, mucus
  - Presence of occult blood
  - Floatation techniques
  - Digestion residues: lipids, carbs, proteins
  - Parasites: Worm eggs and larvae, protozoa
  - Mycology, tumour marker in stool etc.
- Examples for laboratory services

Read Gould “Appendix: Ready Reference 4”, the appendix C and D of your Tortora text book and special course handouts.

If you want to repeat the whole lecture you have the possibility to watch the DVD Laboratory, which can be purchased from the CNM.

SEMESTER II- Exam: Biomedicine

Assignment II (Hand In)