UE 9 Cours 1 : Basics of Anatomy and Physiology – Part 1

I. Introduction

Histology	Refers to the scientific study of the microscopic structure of tissues
Cytology	Refers to the formation, structure and function of cells
Biochemistry	Refers to the chemical composition of living matter and of the chemical processes that go on in living organisms
Medicine	Refers to the scientific study or practice of diagnosing, treating, and preventing diseases or disorders of the body or mind

II. Anatomy

1. Vocabulary

Définition	**Mot en anglais**	**Mot en français**
The entire material or physical structure of an organism, especially of a human	**Body**	**Le corps**
To be composed of, to be formed of	**Made up of**	**Être composé de**
The smallest structural unit of an organism that is capable of independent functioning, consisting of one or more nuclei, cytoplasm, and various organelles, all surrounded by a semipermeable cell membrane	**Cells**	**Cellules**
Scientific study of living organisms	**Biology**	**La biologie**
The science of the structure of living organisms	**Anatomy**	**L'anatomie**
1. The science which treats of the functions of the living organism and its parts, and of the physical and chemical factors and processes involved. 2. The basic processes underlying the functioning of a species or class of organism, or any of its parts or processes	**Physiology**	**La physiologie**
Relative position or rank on a scale. A relative degree	**Level**	**Niveau**
A constituent element or part	**Component**	**Un composant/ Un constituant**
A differentiated part of the body that performs a specific function	**Organ**	**Un organe**
The condition or fact of being related; connection or association	**Relationship**	**Une relation/ Un Rapport**
The study of the structures of the body that can be seen with the naked eye. Also called macroscopic anatomy	**Gross anatomy**	**Anatomie macroscopique**
The pursuit of knowledge, as by reading,observation, or research	**Study**	**L'étude**
The act or an instance of cutting apart or separating tissue, especially for anatomical study	**Dissection**	**La dissection**
The branch of biology that deals with the formation, structure, and activity of macromolecules essential to life, such as nucleic acids, and especially with their role in cell replication and the transmission of genetic information	**Molecular biology**	**La biologie moléculaire**
1. Relating to the study of the chemical substances and vital processes occurring in living organisms	**Biochemical**	**Biochimique**

2. Relating to the chemical composition of a particular living system or biological substance		
Union of male and female gametes to form the diploid zygote, leading to development of a new individual	**Fertilization**	**La fécondation**
A coming into being; act or process of being born	**Birth**	**La naissance**
The speed of frequency with which an event or circumstance occurs per unit of time, population, or other standard of comparison	**Rate**	**Un rythme/ Un taux / Un niveau**
The process of growing. The progressive increase in size of a living thing, especially the process by which the body reaches its point of complete physical development	**Growth**	**La croissance**
The process of growing old or maturing. The gradual changes in the structure of a mature organism that occur normally over time and increase the probability of death	**Aging (Ageing)**	**Le viellissement**

2. Stages of life

Age (years)	**Stage(s) of development**	**Corresponding nouns**
(Prenatal)	Fetal development / Pregnancy / Gestation	Foetus
0	Birth	Newborn
0-2	Infancy	Infant / Toddler
2-12	Childhood	Child / Kid (gamin)
12-18	Puberty / Adolescence / Youth	Teenager
18-40	Adulthood	Adult
40-65	Middle age	Middle-aged person
65-Death	Old age / the elderly	An elderly lady/man

3. True or False

A. Another name for "cellular anatomy" is *histology*.
→ **False**, it's cytology. Histology is the science of tissue.
B. To investigate the body's organs, doctors mainly practice visual inspection and dissection.
→ **True** and false or just false, because doctors practice visual inspection but they don't mainly practice dissection. They use other ways to inspect organs such as medical imagery (scan), auscultation (listen sounds), palpation and percussions.

IV. Cells

1. Vocabulary

Définition	**Mot en anglais**	**Mot en français**
Be composed of	**Be made up of / To make up**	**Être constitué de**
A female gamete; an ovum	**Egg (cell)**	**Un ovule**
Biochemistry. A molecular structure or site on the surface or interior of a cell that binds with substances such as hormones, antigens, drugs, or neurotransmitters	**Receptor**	**Un récepteur**

To act in response to or under the influence of a stimulus	**React**	**Réagir / Interagir**
1. A substance used in the diagnosis, treatment, or prevention of a disease or as a component of a medication 2. A chemical substance, such as a narcotic or hallucinogen, that affects the central nervous system, causing changes in behavior and often addiction	**Drug** **Medicine** **Medication** **Remedy**	**Médicament**
To receive; include Syn. to absorb	**Take in(to)**	**Absorber** **Assimiler** **Ingérer (un aliment)**
To expend ; use	**Consume**	**Consommer**
To begin and carry through to completion; do	**Perform**	**Réaliser**
The process by which a cell divides to form two daughter cells	**Cell division**	**La multiplication cellulaire**
1. Sugar in the form of glucose in the blood 2. The concentration of glucose in the blood, measured in milligrams of glucose per 100 milliliters of blood	**Blood sugar level**	**La glycémie**
A differentiated structure within a cell, such as a mitochondrion, vacuole, or chloroplast, that performs a specific function	**Organelle**	**Organite**
The fluid consisting of plasma, erythrocytes, leukocyte, corpuscles and platelets that is circulated by the heart through the vascular system, carrying oxygen and nutrients to and waste materials away from all body tissues	**Blood**	**Le sang**
The membranous tissue forming the external covering of the body and consisting of the epidermis and dermis	**Skin**	**La peau**
Cordlike bundles of fibers made up of neurons through which sensory stimuli and motor impulses pass between the brain or other parts of the central nervous system and the eyes, glands, muscles, and other parts of the body	**Nerve**	**Un nerf**
A substance usually a peptide or steroid, produced by one tissue and conveyed by the bloodstream to another to effect physiological activity, such as growth or metabolism	**Hormone**	**Une hormone**
Numerous proteins functioning as biochemical catalysts	**Enzyme**	**Un(e) enzyme**
Two milk-secreting, glandular organs on the chest of a woman; the human mammary gland	**Breast**	**Le sein**
A long, irregularly shaped gland, lying behind the stomach, that secretes enzymes into the duodenum and insulin, glucagon, and somastostatin into the bloodstream	**Pancreas**	**Le pancréas**
A polypeptide hormone functioning in the regulation of the metabolism of carbohydrates and fats, especially the conversion of glucose to glycogen, which lowers the blood glucose level	**Insulin**	**L'insuline**
A covering or coating for an inside surface	**Lining**	**Un revêtement (intérieur)**
Two spongy, saclike respiratory organs occupyring the chest cavity together with the heart and functioning to remove carbon dioxide from the blood and provide it with oxygen	**Lung**	**Le poumon**
The viscous, slippery substance that consists chiefly of mucin, water, cells, and inorganic salts and is secreted as a protective lubricant coating by cells and glands of the mucous membranes	**Mucus**	**Les mucosités / Le mucus**

The cavity lying at the upper end of the alimentary canal, bounded on the oustside by the lips and inside by the oropharynx and containing the tongue, gums, an teeth	**Mouth**	**La bouche**
The watery mixture of secretions from the salivary and oral mucous glands that lubricates chewed food, moistens the oral walls, and contains ptyalin	**Saliva**	**La salive**
The electrochemical transmission of a signal that produces an excitatory or inhibitory response at a target tissue, such a muscle or another nerve	**Impulse**	**Une implusion** **Un influx nerveux**
The portion of the nervous system consisting of the brain and spinal cord, to which sensory impulses are transmitted and from which motor impulses pass out, and which supervises and coordinates the activity of the entire nervous system	**Central nervous system**	**Le système nerveux central**
The portion of the central nervous system that is enclosed within cranium, continuous with spinal cord, and composed of gray matter and white matter. It is the primary center for the regulation and control of bodily activities, receiving and interpreting sensory impulses, and transmitting information to the muscles and body organs. It is also the seat of consciousness, thought, memory, and emotion	**Brain**	**Le cerveau**
The thick, whitish cord of nerve tissue that extends from the medulla oblongata down through the spinal column and from which the spinal nerves branch off to various parts of the body	**Spinal cord**	**La moelle épinière** **Le cordon médullaire** **La corde dorsale**

2. True or False?

A. Cells are the smallest units of living organisms

→ **True**, three many reasons: they must be unite for protection, they must consume and transform energy with mitochondria, they can live independently (unicellular organism).

B. The cell's genetic material is contained in the nucleus in the form of chromosomes

→**True and false**, **that's true only when it's replication.** The Genetic material isn't only in the form of chromosomes.

C. Substances such as hormones or drugs enter or leave the cell through receptors

→**True and False or just false**, because **some substances like thyroid hormones go through (traverser) the cell membrane or use channels (canaux) to enter into cells**.

V. Glandular organs

1. True or false?

A. Like white blood cells, red blood cells move freely within the body unattached to other cells.

→**False, the red blood cells (RBD) are limited to blood vessels**.

B. Endocrine glands secrete substances within body, whereas exocrine glands secrete substances outside the body.

→**Mostly True, the digestive tract (stomach, intestine) is technically considered outside of our body** because we have orifices (mouth).