

Syllabus of Anatomy

The structure of the course for theoretical and practice anatomy /first academic level / the first course

Week	Hours	Unit name and/or topic	education method	evaluation method
1	2 theoretical	Introduction (Terms of position & movement of Human body	Lecture+ lab	General question discussion + exam
	4 practical			
2	4 practica	-The human body Structure	Lecture+ lab	General question discussion + exam
	2 theoretical			
	1			
3	4 practical	Skin, fasciae Blood vessels	Lecture+ lab	General question discussion + exam
	2 theoretical			
4	2 theoretical	Muscles, Bones, Joints Nervous System	Lecture+ lab	General question discussion + exam
	4 practical			
5	4 practical	Upper limb: Osteology of upper limb	Lecture+ lab	General question discussion + exam
	2 theoretical			
6	2 theoretical	Surface Anatomy Fasciae of upper limb Cutaneous nerves and Vessels	Lecture+ lab	General question discussion + exam
	4 practical			
7	4 practical	Pectoral region Axilla,	Lecture+ lab	General question
	2 theoretical			

		Axilla, Back, Back Lymphatic drainage Lymphatic drainage		discussion + exam
8	2 theoretical 4 practical	Identify the Brachial plexus, Brachial plexus Nerve injuries, Nerve injuries	Lecture+ lab	General question discussion + +exam
9	4 practical 2 theoretical	Identify the Arm (anterior & Arm(anterior & Posterior)	Lecture+ lab	General question discussion + exam
10	2 theoretical 4 practical	Identify the Forearm Anterior & Anterior & posterior compartment	Lecture+ lab	General question discussion + exam
11	4 practical 2 theoretical	Identify the Hand.	Lecture+ lab	General question discussion + exam
12	2 theoretical 4 practical	Identify the Radiological Anatomy.	Lecture+ lab	General question discussion + exam
13	4 practical 2 theoretical	Identify the Lower Limb Osteology of lower limb	Lecture+ lab	General question discussion + exam
14	2 theoretical 4 practical	Identify the Surface Anatomy The fascia of the lower limb Cutaneous vessels, nerves & lymphatic's	Lecture+ lab	General question discussion + exam
15	4 practical 2 theoretical	Identify the Surface Anatomy Cutaneous vessels, nerves & lymphatic's	Lecture+ lab	General question discussion + exam

The structure of the course for theoretical and practice anatomy /first academic level / the second course

Week	Hours	Required educational goals	Unit name and/or topic	education method	evaluation method
1	2 theoretical 4 practical	Identify the Gluteal region	Gluteal region Post compartment thigh	Lecture+ lab	General question
		Post compartment thigh Popliteal fossa	Popliteal fossa		discussion + exam
2	4 practical 2 theoretical	Identify the Ant. compartment thigh Med. compartment thigh Lumbar plexus	Ant. compartment thigh Med. compartment thigh Lumbar plexus	Lecture+ lab	General question discussion + exam
3	4 practical 2 theoretical	Identify the Leg	Leg	Lecture+ lab	General question discussion + exam
4	2 theoretical 4 practical	Identify the Foot Arches of foot	Foot Arches of foot	Lecture+ lab	General question discussion + +exam
5	4 practical 2 theoretical	Identify the Radiological Anatomy	Radiological Anatomy	Lecture+ lab	General question discussion + exam
6	2 theoretical 4 practical	Identify the Thorax Thoracic walls Osteology	Thorax Thoracic walls Osteology	Lecture+ lab	General question discussion + exam
7	4 practical 2 theoretical	Identify the Muscles Nerves & vessels	Muscles Nerves & vessels	Lecture+ lab	General question discussion + exam
8	2 theoretical 4 practical	Identify the Thoracic cavity Pleura, lungs	Thoracic cavity Pleura, lungs	Lecture+ lab	General question discussion + +exam
9	4 practical 2 theoretical	Identify the Mediastinum Superior mediastinum	Mediastinum Superior mediastinum	Lecture+ lab	General question discussion + exam
10	2 theoretical 4 practical	Identify the Heart Pericardium	Heart Pericardium	Lecture+ lab	General question discussion + exam
11	4 practical 2 theoretical	Identify the Heart chambers Conducting system	Heart chambers Conducting system	Lecture+ lab	General question discussion + exam
12	2 theoretical 4 practical	Identify the Post. Mediastinum Joints, Movements	Post. Mediastinum Joints, Movements	Lecture+ lab	General question discussion +

					exam
13	4 practical	Identify the	Radiological Anatomy	Lecture+ lab	General

	2 theoretical	Radiological Anatomy			question discussion + exam
14	2 theoretical 4 practical	Identify the Gluteal region	Gluteal region	Lecture+ lab	General question discussion + exam
15	4 practical 2 theoretical	Identify Post compartment thigh Popliteal fossa	Post compartment thigh Popliteal fossa	Lecture+ lab	General question discussion + exam

Infrastructure of anatomy for the first academic level	
1-Required course books	Clinical Anatomy For Medical Students, by Richard S. Snell, Williams and Wilkins Cunningham"s Manual Of Practical Anatomy, Three Volumes, By G.J.Romanes: Oxford.Medical.Publications
2- main references (sources)	All human anatomy books and magazines
3- Recommended books and references (scientific journals, reports)	All human anatomy books and magazines
4- Electronic references, websites	https://themdjourney.com/20-best-anatomy-and-physiology-books-for-medical-students/#The_Anatomy_Coloring_Book

The structure of the course for theoretical and practice anatomy /second academic level / the first course

Week	Hours	Required educational goals	Unit name and/or topic	education method	evaluation method
1	2 theoretical 4 practical	Teaching the student what is the meaning of Anterior abdominal wall Male external genitalia	Anterior abdominal wall Male external genitalia	Lecture+ lab	General question discussion + exam
2	4 practical 2 theoretical 1	Identify the Abdominal cavity Peritoneum	Abdominal cavity Peritoneum	Lecture+ lab	General question discussion + exam
3	4 practical 2 theoretical	Identify the Abdominal viscera	Abdominal viscera	Lecture+ lab	General question discussion + exam
4	2 theoretical 4 practical	Identify Diaphragm Post. Abdominal wall	Diaphragm Post. Abdominal wall	Lecture+ lab	General question discussion + +exam
5	4 practical 2 theoretical	Identify the Blood supply of the abdomen & Pelvis Autonomic supply Lymphatic drainage	Blood supply of abdomen & Pelvis Autonomic supply Lymphatic drainage	Lecture+ lab	General question discussion + exam
6	2 theoretical 4 practical	Identify the Bony pelvis Pelvic walls Female external genitalia	Bony pelvis Pelvic walls Female external genitalia	Lecture+ lab	General question discussion + exam
7	4 practical 2 theoretical	Identify the Pelvic viscera	Pelvic viscera	Lecture+ lab	General question discussion +

					exam
8	2 thiooretical 4practical	Identify the Perineum	Perineum	Lecture+ lab	General question discussion + +exam
9	4 practical 2 theoretical	Identify the Vessels, nerves of the pelvis & perineum.	Vessels, nerves of pelvis & perineum	Lecture+ lab	General question discussion + exam
10	2 thiooretical 4 practical	Identify the Head & neck skull.	Head & neck skull	Lecture+ lab	General question discussion + exam
11	4 practical 2 theoretical	Identify the Vertebral column Cervical vertebrae	Vertebral column Cervical vertebrae	Lecture+ lab	General question discussion + exam
12	2 theoretical 4practical	Identify the Face, Muscles Blood & Nerve supply Lymphatic drainage scalp	Face, Muscles Blood & Nerve supply Lymphatic drainage scalp	Lecture+ lab	General question discussion + exam
13	4 practical 2 theoretical	Identify the Neck, surface anatomy Structural organization Fasciae of Neck Triangles & contents	Neck, surface anatomy Structural organization Fasciae of Neck Triangles & contents	Lecture+ lab	General question discussion + exam
14	2 theoretical 4 practical	Identify the Cranial Meninges Folds of dura mater venous sinuses	Cranial Meninges Folds of dura mater venous sinuses	Lecture+ lab	General question discussion + exam
15	4 practical 2 theoretical	Identify the Orbit Lacrimal apparatus	Orbit Lacrimal apparatus	Lecture+ lab	General question discussion + exam

The structure of the course for theoretical and practice anatomy /second academic level / the second course

Week	Hours	Required educational goals	Unit name and/or topic	education method	evaluation method
1	2 theoretical 4 practical	Identify the Temporal & infra temporal fossae Tempromandibular joint	Temporal & infra temporal fossae Tempromandibular joint	Lecture+ lab	General question discussion + exam
2	4 practica	Identify the Root	The root of Neck	Lecture+ lab	General

	2 theoretical 1	of Neck Thyroid & Parathyroid	Thyroid & Parathyroid		question discussion + exam
3	4 practical 2 theoretical	Identify the Cranial nerves Examination injuries	Cranial nerves Examination injuries	Lecture+ lab	General question discussion + exam
4	2 theoretical 4 practical	Identify the Lymphatic drainage Oral cavity, pharynx Larynx	Lymphatic drainage Oral cavity, pharynx Larynx	Lecture+ lab	General question discussion + +exam
5	4 practical 2 theoretical	Identify the Nose, Pterygopalatine fossa ear	Nose, Pterygopalatine fossa ear	Lecture+ lab	General question discussion + exam
6	2 theoretical 4 practical	Identify the Cervical plexus Autonomic nerve supply head & neck	Cervical plexus Autonomic nerve supply head & neck	Lecture+ lab	General question discussion + exam
7	4 practical 2 theoretical	Identify the Introduction-CNS parts, Divisions, Components Functional	Introduction-CNS parts, Divisions, Components Functional	Lecture+ lab	General question discussion + exam
8	2 theoretical 4practical	Identify the Blood supply of the brain & spinal cord Spinal cord	Blood supply of brain & spinal cord Spinal cord	Lecture+ lab	General question discussion + +exam
9	4 practical 2 theoretical	Identify the Brain stem Cranial nerve nuclei	Brain stem Cranial nerve nuclei	Lecture+ lab	General question discussion + exam
10	2 thiooretical 4 practical	Identify the Cerebellum Diencephalon	Cerebellum Diencephalon	Lecture+ lab	General question discussion + exam
11	4 practical 2 thiooretical	Identify the Cerebral hemispheres Cortex White mater Lateral ventricle	Cerebral hemispheres Cortex White mater Lateral ventricle	Lecture+ lab	General question discussion + exam
12	2 thiooretical 4practical	Identify the Extropyramidal system Limbic system	Extropyramidal system Limbic system	Lecture+ lab	General question discussion + exam
13	4 practical	Identify the Major	Major pathways	Lecture+ lab	General

	2 theoretical	pathways			question discussion + exam
14	2 theoretical 4 practical	Identify the C.S.F circulation, hydrocephalus	C.S.F circulation, hydrocephalus	Lecture+ lab	General question discussion + exam
15	4 practical 2 theoretical	Intracranial hemorrhages	Intracranial hemorrhages	Lecture+ lab	General question discussion + exam

Infrastructure of anatomy for the second academic level	
1-Required course books	Clinical Anatomy For Medical Students, by Richard S. Snell, Williams and Wilkins Cunningham"s Manual Of Practical Anatomy, Three Volumes, By G.J.Romanes: Oxford.Medical.Publications
2- main references (sources)	All human anatomy books and magazines
3- Recommended books and references (scientific journals, reports)	All human anatomy books and magazines
4- Electronic references, websites	https://themdjourney.com/20-best-anatomy-and-physiology-books-for-medical-students/#The_Anatomy_Coloring_Book

The structure of the course for theoretical and practice histology /second academic level / the first course

Week	Hours	Required educational goals	Unit name and/or topic	education method	evaluation method
1	2 theoretical 2 practical	Microscopy & their types. Primary tissue & their role in formation of tissue.	Introduction to the histology	Lecture+ lab	General question discussion + exam
2	2 practical 2 theoretical 1	Teaching the student what is the meaning of tissue and its forms ,the cells which covered the body from outside and lining from inside	Epithelial tissue	Lecture+ lab	General question discussion + exam
3	2 practical 2 theoretical	Modification unit for epithelial tissue. Exocrine glands & their classification.	Epithelial gland.	Lecture+ lab	General question discussion + exam
4	2 theoretical 2 practical	Identify the tissue which connect the tissue together and its types .	Connective tissue	Lecture+ lab	General question discussion + +exam
5	2 practical 2 theoretical	Identify the cells & fibers and its types	Cells of connective tissue	Lecture+ lab	General question discussion + exam
6	2 theoretical 2 practical	Identify the adipose cell and recognize it from other cell types	Adipose tissue	Lecture+ lab	General question discussion + exam
7	2 practical 2 theoretical	Identify the types of cartilage and its distribution in the body	Cartilage	Lecture+ lab	General question discussion + exam
8	2 thiooretical 2 practical	Identify the bone tissue and its types	Bone	Lecture+ lab	General question discussion + +exam
9	2 practical 2 theoretical	The central & peripheral nerves system	Nervous system	Lecture+ lab	General question discussion + exam

10	2 theoretical 2 practical	Identify the nervous tissue and its types and explains the nervous impulse reach to rest body	Nerve tissue	Lecture+ lab	General question discussion + exam
11	2practical 2 theoretical	Identify the types of muscles and differences between them as longitudinal and transverse section	Muscle tissue	Lecture+ lab	General question discussion + exam
12	2 theoretical 2 practical	Identify the blood vascular system and its main function and	Circulatory system I	Lecture+ lab	General question discussion + exam
13	2practical 2 theoretical	The types of artery and vein.	Circulatory system II	Lecture+ lab	General question discussion + exam
14	2 theoretical 2 practical	Identify the types, shape and function of blood cells and the number of each type.	Blood cell	Lecture+ lab	General question discussion + exam
15	2practical 2 theoretical	Identify the way of derived of the blood cell from stem cell and differentiate of a blood cell .	hematopoiesis	Lecture+ lab	General question discussion + exam

The structure of the course for theoretical and practice histology /second academic level / the second course

Week	Hours	Required educational goals	Unit name and/or topic	education method	evaluation method
1	2 theoretical 2 practical	Identify the lymphoid organ and tissue responsible for immunity of the body	Lymphoid organ	Lecture+ lab	General question discussion + exam
2	2 practica 2 theoretical 1	Identify the digestive system and explain the digest and absorb in the organ of this system	Digestive system I	Lecture+ lab	General question discussion + exam
3	2 practical 2 theoretical	Digestive Tract; General structure,	Digestive system II	Lecture+ lab	General question

		the oral cavity and tongue. Pharynx and esophagus.			discussion + exam
4	2 theoretical 2 practical	Stomach and Small intestine Large intestine & appendix	Digestive system III	Lecture+ lab	General question discussion + +exam
5	2 practical 2 theoretical	Identify the organs which associated with digestive tract	Organs associated with digestive tract	Lecture+ lab	General question discussion + exam
6	2 theoretical 2 practical	Identify the parts of the respiratory system	The respiratory system I	Lecture+ lab	General question discussion + exam
7	2 practical 2 theoretical	Respiratory System; Nasal cavity, larynx and trachea.	The respiratory system II	Lecture+ lab	General question discussion + exam
8	2 theoretical 2 practical	Respiratory System The Lung Bronchial tree.	The respiratory system III	Lecture+ lab	General question discussion + +exam
9	2practical 2 theoretical	Identify the layers of the skin and the glands, hair and nail	Skin	Lecture+ lab	General question discussion + exam
10	2 theoretical 2 practical	Identify The Urinary System The Kidney and blood supply.	The Urinary System I	Lecture+ lab	General question discussion + exam
11	2practical 2 thiooretical	Identify nephrons Ureter, urinary bladder, urethra	The Urinary System II	Lecture+ lab	General question discussion + exam
12	2 thiooretical 2 practical	Identify the glands and its structure	Endocrine glands	Lecture+ lab	General question discussion + exam
13	2practical 2 theoretical	Identify the parts of the male reproductive and their structure	Male reproduction	Lecture+ lab	General question discussion + exam
14	2 theoretical 2 practical	Identify the parts of the female reproductive and its structure	Female reproductive	Lecture+ lab	General question discussion + exam
15	2practical	Identify the ear	Photoreceptors and	Lecture+ lab	General

	theoretical	and the eye	audio receptors		question discussion + exam
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Infrastructure of histology for the second academic level

1-Required course books	-Human Anatomy and cell physiology by Mcgraw hill 17 th ed
2- main references (sources)	All human histology books and magazines
3- Recommended books and references (scientific journals, reports)	All human histology books and magazines
4- Electronic references, websites	https://themdjourney.com/20-best-histology-and-physiology-books-for-medical-students/#The_Anatomy_Coloring_Book

The structure of the course for theoretical embryology /second academic level / the first course					
Week	Hours	Required educational goals	Unit name and/or topic	education method	evaluation method
1	1	Teaching the student what is the meaning of embryology	Introduction to embryology	Lecture	General question discussion + exam
2	1	Teaching the student what is the meaning of molecular regulation signaling.	molecular regulation signaling	Lecture	General question discussion + exam
3	1	Identify Gametogenesis	Gametogenesis	Lecture	General question discussion + exam
4	1	Identify Gametogenesis conversion of germ cell into male	conversion of germ cell into male	Lecture	General question discussion + +exam
5	1	Identify male gametes	male gametes	Lecture	General question discussion + exam
6	1	Identify Gametogenesis conversion of germ cell into female	conversion of germ cell into female	Lecture	General question discussion + exam
7	1	Identify female gametes	female gametes	Lecture	General question discussion + exam
8	1	Identify the First week to development: Ovulation	First week to development to Ovulation	Lecture	General question discussion + +exam
9	1	Identify Fertilization	Fertilization	Lecture	General question discussion + exam

10	1	Identify implantation	Implantation	Lecture	General question discussion + exam
11	1	Identify Cleavage zygote	Cleavage zygote	Lecture	General question discussion + exam
12	1	Identify First week to development :Ovulation to implantation	First week to development: Ovulation to implantation	Lecture	General question discussion + exam
13	1	Identify Second week of development Bilaminar germ disc	The second week of development Bilaminar germ disc	Lecture	General question discussion + exam
14	1	Identify Third week of development :Trilaminar germ disc	Third week of development: Trilaminar germ disc	Lecture	General question discussion + exam
15	1	Identify the Third to eighth week the embryonic period	Third to eighth week the embryonic period	Lecture	General question discussion + exam

** there is no practice

The structure of the course for theoretical embryology /second academic level / the second course					
Week	Hours	Required educational goals	Unit name and/or topic	education method	evaluation method
1	1	Identify embryo from the 4 th -8 th weeks.	embryo from the 4 th -8 th weeks.	Lecture	General question discussion + exam
2	1	Identify The human fetus. And fetal membranes.	The human fetus. And fetal membranes.	Lecture	General question discussion + exam
3	1	Identify and transverse section of The gut tube	The gut tube	Lecture	General question discussion + exam
4	1	Identify and transverse sections of the body cavities	the body cavities	Lecture	General question discussion + exam
5	1	Identify the Third month to birth	Third month to birth	Lecture	General question

					discussion + exam
6	1	Identify placenta	Placenta	Lecture	General question discussion + exam
7	1	Identify Somitogenesis	Somitogenesis	Lecture	General question discussion + exam
8	1	Identify Myogenesis	Myogenesis	Lecture	General question discussion + exam
9	1	Identify Scheduled examination. Of embryo	Scheduled examination.	Lecture	General question discussion + exam
10	1	Identify the fetus	the fetus	Lecture	General question discussion + exam
11	1	Identify Teratology.	Teratology The	Lecture	General question discussion + exam
12	1	Identify The birth defects	birth defects.	Lecture	General question discussion + exam
13	1	Identify the Birth defects and prenatal diagnosis	prenatal diagnosis	Lecture	General question discussion + exam
14	1	Identify the Birth defects and Postnatal diagnosis	Postnatal diagnosis	Lecture	General question discussion + exam
15	1	Exam	exam	Lecture	General question discussion + exam

** there is no practice

Infrastructure of embryology for the second academic level

1-Required course books	Medical Embryology
2- main references (sources)	Color Atlas of Embryology. Drews 1995- Developmental Biology. Gilbert 2003--2 2006
3- Recommended books and references (scientific journals, reports)	All embryos books and magazines
4- Electronic references, websites	https://themdjourney.com/20-best-embryology-books-for-medical-students/#The_Anatomy_Coloring_Book

The structure of the course for theoretical and practice biology /first academic level / the first course

week	Hours	Required educational goals	Unit name and/or topic	education method	evaluation method
1	2	Introduction & Definitions	Cells make up living things	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	3	Practical Training			
2	2	Data Collection	Cells make up living things	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	3	Practical Training			
3	2	Sampling Methods	Cells make up living things	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	3	Practical Training			
4	2	Data Presentation	Cells make up living things	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	3	Practical Training			
5	2	Measurements of Central Tendency	Membrane models Have Changed	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	3	Practical Training			
6	2	Measurements of Variability	Membrane models Have Changed	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	3	Practical Training			
7	2	Range & Variance	Membrane models Have Changed	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	3	Practical Training			
8	2	Standard Deviation & Coefficient of	Membrane models Have Changed	Theoretical lectures and practical	Discussions, reports, tests and exams

		Variation		laboratories	(theoretical and practical)
	3	Practical Training			
9	2	Probability (Part 1)	Energy	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	3	Practical Training			
10	2	Probability (Part 2)	Energy	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	3	Practical Training			
11	2	Student's t-Test	Energy	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	3	Practical Training			
12	2	Chi-square Test (Part 1)	Energy	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	3	Practical Training			
13	2	Chi-square Test (Part 2)	How Cells Acquired ATP	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	3	Practical Training			
14	2	Correlation & Regression (Part 1)	How Cells Acquired ATP	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	3	Practical Training			
15	2	Correlation & Regression (Part 2)	How Cells Acquired ATP	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	3	Practical Training			

The structure of the course for theoretical and practice biology /first academic level / the first course

week	Hours	Required educational goals	Unit name and/or topic	education method	evaluation method
1	2	Introduction & Definitions	Cells make up living things	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	3	Practical Training			
2	2	Data Collection	Cells make up	Theoretical	Discussions,

	3	Practical Training	living things	lectures and practical laboratories	reports, tests and exams (theoretical and practical)
3	2	Sampling Methods	Cells make up living things	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	3	Practical Training			
4	2	Data Presentation	Cells make up living things	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	3	Practical Training			
5	2	Measurements of Central Tendency	Membrane models Have Changed	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	3	Practical Training			
6	2	Measurements of Variability	Membrane models Have Changed	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	3	Practical Training			
7	2	Range & Variance	Membrane models Have Changed	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	3	Practical Training			
8	2	Standard Deviation & Coefficient of Variation	Membrane models Have Changed	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	3	Practical Training			
9	2	Probability (Part 1)	Energy	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	3	Practical Training			
10	2	Probability (Part 2)	Energy	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	3	Practical Training			
11	2	Student's t-Test	Energy	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	3	Practical Training			

12	2	Chi-square Test (Part 1)	Energy	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	3	Practical Training			
13	2	Chi-square Test (Part 2)	How Cells Acquired ATP	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	3	Practical Training			
14	2	Correlation & Regression (Part 1)	How Cells Acquired ATP	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	3	Practical Training			
15	2	Correlation & Regression (Part 2)	How Cells Acquired ATP	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	3	Practical Training			

The structure of the course for theoretical and practice biology /first academic level / the second course					
week	Hours	Required educational goals	Unit name and/or topic	education method	evaluation method
1	2	Introduction & Definitions	Cells Divisions	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	2	Practical Training			
2	2	Data Collection	Cells Divisions	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	2	Practical Training			
3	2	Sampling Methods	Cells have a chromosome	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	2	Practical Training			
4	2	Data Presentation	Cells have a chromosome	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	2	Practical Training			
5	2	Measurements of Central Tendency	Cells have a chromosome	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	2	Practical			

		Training			practical)
6	2	Measurements of Variability	Introducing Gregor Mendel	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	2	Practical Training			
7	2	Range & Variance	Introducing Gregor Mendel	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	2	Practical Training			
8	2	Standard Deviation & Coefficient of Variation	Introducing Gregor Mendel	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	2	Practical Training			
9	2	Probability (Part 1)	Chromosomes and genes	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	2	Practical Training			
10	2	Probability (Part 2)	Chromosomes and genes	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	2	Practical Training			
11	2	Student's t-Test	Considering the Chromosomes	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	2	Practical Training			
12	2	Chi-square Test (Part 1)	Considering the Chromosomes	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	2	Practical Training			
13	2	Chi-square Test (Part 2)	Searching for the Genetic Material	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	2	Practical Training			
14	2	Correlation & Regression (Part 1)	Searching for the Genetic Material	Theoretical lectures and practical laboratories	Discussions, reports, tests and exams (theoretical and practical)
	2	Practical Training			
15	2	Correlation & Regression (Part 2)	What Genes Do	Theoretical lectures and practical	Discussions, reports, tests and exams

	2	Practical Training		laboratories	(theoretical and practical)
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Infrastructure of biology for the first academic level	
1-Required course books	Medical Biology by Sylvia Madar
2- main references (sources)	Human Anatomy and Cellphysiology by Mc graw bill 17 th ed
3- Recommended books and references (scientific journals, reports)	All embryos books and magazines
4- Electronic references, websites	https://themdjourney.com/20-best-biology-books-for-medical-students/#The_Anatomy_Coloring_Book