



Module of Cell Biology – 1st year Pharmacy

2025/ 2026

Responsible of the Module: BERRAK Hakima

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Program contains four Chapters

CHAPTERS	Title	Tutorials / Practical work	Months
Chapter I. Elements of Systematics	1- Prokaryotic organisms: 1.1. Bacteria 1.2. Viruses	Tutorial 1. Systematic exercises : Prokaryotic organisms	28/09/2025 Oct
	2- Eukaryotic organisms: 2.1. Protozoa 2.2. Paramecium 2.3. Metazoans	Tutorial 2. Systematic exercises: Eukaryotic organisms	Oct Oct
	1. Plasma membrane	Tutorial 3. Cytology Plasma membrane	Nov
Chapter II. Cytology	2. Nucleus 3. Ribosomes	Tutorial 4. Nucleus and Ribosomes	Nov
	4. Endoplasmic reticulum 5. Golgi apparatus	Tutorial 5. Endo reticulum and Golgi apparatus	Nov Nov
	6 . Mitochondria	Tutorial 5. Mitochondria	Dec
	7. Cytoskeleton and Extracellular matrix	Tutorial 6. Extracellular matrix	Dec
	8. Membrane signal transduction 9. Phosphorylation reactions 10. Cell cycle. 11. Analytical methods applied to cell biology	Tutorial 7. Cell cycle.....	Jan 2026

Chapter III. Histology	1. Epithelial tissue (covering) 2. Epithelial tissue (glandular)	Practical work. Epithelium: observation of histological slides	Jan 2026
	3. Muscle tissue 4. Connective tissue	Practical work .Epithelium: observation of histological slides	Feb 2026
	5. Blood tissue 6 . cartilage tissue 7. Bone tissue 8. Nervous tissue	Practical work. -Observation of histological slides -Preparation of a blood smear	Feb Feb Mars
Chapter IV. Embryology	Fundamental concepts of embryology 1. Male reproductive system 2. Female reproductive system 3. Fertilization 4. 1 st week of embryonic development: Blastocyst 5. 2 nd week of embryonic development: Pre-gastrulation 6. 3 rd week of embryonic development: Gastrulation 7. 4th to 8th week of embryonic development: Embryo delimitation, fate of germ layers, morphogenesis 8. Diffuse and definitive placenta	Practical work 1. Reproductive organs “observation of histological sections of the gonads” 2. Human embryonic development “ use of models”	Apr Apr Apr May May