

MISR UNIVERSITY
for science and technology



جامعة مصر
للعلوم والتكنولوجيا
كلية الطب

**Fundamentals of molecular biochemistry
& genetics**

BIO101

Student's Portfolio

2024-2025



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STUDENT PORTFOLIO

BIO101 COURSE

PHASE 1, LEVEL 1, SEMESTER 1

Spring 2024

- Name: Mazen...Youssef...Seddik...Shafik
- ID: 200049802
- Course code: B101
- Section Day and Time: Sunday / 9:00
- Instructor: Dr. Mohamed Shafik

Module professional information:

Overall Module Aims to:

Aim 1	Provide the medical students to have knowledge about different food stuff chemistry, types & medical importance and chemistry& types of proteins, lipids& carbohydrates and diseases due to defect in their structures; e.g. Alzheimer, anemia & formation of free radicals and how role of anti-oxidants.
Aim 2	Study chemistry of nucleic acids, their types and their functions. In addition, studying DNA replication, and mechanism of gene expression "RNA transcription".
Aim3	Explain basic skills for the application of identification between different types of proteins & carbohydrates and application of molecular biology in a simple mode.

STUDENT PORTFOLIO

Module activities

By the end of his graduation, the student should be able to achieve.

Carbohydrate unknown	Protein unknown
▪ Glucose	▪ Albumin
▪ Fructose	▪ Casine
▪ Sucrose	▪ Gelatine
▪ Starch	

Academic Activities:

Checklist for Glucose

Experiment	Steps	Observation	Result	Done	Not Done
Molisch's test	2mL sample	Purple ring	Carbohydrates	✓	
	2 drops Alco. α naphthol			✓	
	2mL H_2SO_4 Slowly on side wall of test tube			✓	
Iodine test	3mL sample	No result	Not starch	✓	
	3 drops Iodine			✓	
Fehling test	2mL sample in test tube	orange ppt	Glucose or Fructose	✓	
	2mL Fehling reagent in another test tube			✓	
	Heat both test tubes			✓	
	Mix after heating			✓	
Ketose test	2mL sample	no red colour	glucose	✓	
	2mL HCL			✓	
	Heat (in & out)			✓	

Instructor name:
Signature:

Dr. Me

Checklist for Fructose

Experiment	Steps	Observation	Result	Done	Not Done
Molisch's test	2mL sample	Purple ring	Carbohydrates		
	2 drops Alco. α naphthol			✓	
	2mL H_2SO_4 Slowly on side wall of test tube				
Iodine test	3mL sample	no result	not Starch		
	3 drops Iodine				
Fehling test	2mL sample in test tube	Orange ppt	glucose or Fructose		
	2mL Fehling reagent in another test tube				
	Heat both test tubes				
	Mix after heating				
Ketose test	2mL sample	red colour	Fructose		
	2mL HCL				
	Heat (in & out)				

Instructor name:

Signature:

Dr. [Signature]

Checklist for Sucrose

Experiment	Steps	Observation	Result	Done	Not Done
Molisch's test	2mL sample	Purple colour	Carbohydrate		
	2 drops Alco. α naphthol			✓	
	2mL H_2SO_4 Slowly on side wall of test tube				
Iodine test	3mL sample	no blue colour	no starch	✓	
	3 drops Iodine				
Fehling test	2mL sample in test tube	no orange PPT	neither glucose nor fructose		
	2mL Fehling reagent in another test tube				
	Heat both test tubes			✓	
	Mix after heating				
Ketose test	2mL sample	no red colour	sucrose	✓	
	2mL HCL				
	Heat (in & out)				

Checklist for Starch

Experiment	Steps	Observation	Result	Done	Not Done
Molisch's test	2mL sample	Purple ring	Carbohydrate		
	2 drops Alco. α naphthol			✓	
	2mL H_2SO_4 Slowly on side wall of test tube			✓	
Iodine test	3mL sample	blue colour	starch	✓	
	3 drops Iodine				

Instructor name:

Signature:

Dr. A. _____

Checklist for Albumin

Experiment	Steps	Observation	Result	Done	Not Done
Biuret test	2mL sample	Violet colour	Protein		
	2mL NaOH 10%				
	2 drops CuSO ₄				
Heat coagulation test	3mL sample	Coagulation	Albumin		
	Heat top of solution in test tube				

Checklist for Casein

Experiment	Steps	Observation	Result	Done	Not Done
Biuret test	2mL sample	violet	Protein		
	2mL NaOH 10%				
	2 drops CuSO ₄				
Heat coagulation test	3mL sample	No Coagulation	not albumin		
	Heat top of solution in test tube				
Xanthoproteic test	2mL sample	yellow colour	Casein		
	1mL HNO ₃				
	Heat				
Rosenheim's test	2mL sample	Purple colour	Casein		
	2 drops FCF				
	2mL H ₂ SO ₄ Slowly on side wall of test tube				

Instructor name:

Signature:

Dr. M. e.

Checklist for Gelatine

Experiment	Steps	Observation	Result	Done	Not Done
Biuret test	2mL sample	violet Colour	Protein		
	2mL NaOH 10%				
	2 drops CuSO ₄				
Heat coagulation test	3mL sample	No Coagulation	not albumin		
	Heat top of solution in test tube				
Xanthoproteic test	2mL sample	No Yellow Colour	gelatin		
	1mL HNO ₃				
	Heat				
Rosenheim's test	2mL sample	No Purple ring	gelatin		
	2 drops FCF				
	2mL H ₂ SO ₄ Slowly on side wall of test tube				

Instructor name:

Signature:

