

Faculty of Oral & Dental Medicine

Biochemistry

Information :

Course Code : SGS 261

Level : Undergraduate

Course Hours : 3.00- Hours

Department : Faculty of Oral & Dental Medicine

Instructor Information :

| Title | Name | Office hours |
|---------------------|--------------------------------------|--------------|
| Professor | NAGWA KAMALELDIN SAAD HUSSEIN ROSHDY | 8 |
| Associate Professor | Miriam Safwat Wadie Gerges | 8 |
| Assistant Lecturer | Noha Amr Abdel Karim Al Sabbagh | |
| Assistant Lecturer | Ibrahim Taha Radwan Ahmed | |
| Teaching Assistant | Sarah Saeed Mohamed Zaki Hussien | |
| Teaching Assistant | Dina Mohamed Saeed Abdelaziz | |

Area Of Study :

The Course Explains the Chemistry and metabolism of Biological Molecules. It makes the student to understand the and Chemical nature and metabolic changes of different molecules inside the body. It also enables the student to understand the chemical function of Biomolecules and highlights the importance of individual molecules inside the cell.

Description :

Chemistry of carbohydrates, lipids , proteins \$ Amino acids .
Molecular biology (Nucleoxides & Nucleicacids) , Immunoglobulins .

Course outcomes :

a.Knowledge and Understanding: :

| | |
|-----|---|
| 1 - | Describe structure of carbohydrates, proteins and lipids. |
| 2 - | Describe the metabolic pathways |
| 3 - | Demonstrate the principles of metabolic pathways. |
| 4 - | Point out the importance of vitamins. |
| 5 - | Describe the basic principles of some metabolic errors |
| 6 - | Demonstrate principles of molecular biology |

b.Intellectual Skills: :

| | |
|-----|--|
| 1 - | Differentiate between structures of carbohydrates, lipids and proteins |
| 2 - | Explain basis of metabolic reactions. |
| 3 - | Explain basis of errors in metabolism |
| 4 - | Appreciate importance of some molecular biology techniques (e.g. PCR) |

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|--|--|
| 5 - | Explain the role of vitamin deficiency in development of some diseases |
| c. Professional and Practical Skills: : | |
| 1 - | Identify unknown carbohydrate solution |
| 2 - | Identify unknown protein solution |
| 3 - | Detect abnormal constituents of urine |
| 4 - | Write a urine report |
| 5 - | Solve case problem |
| d. General and Transferable Skills: : | |
| 1 - | Work effectively in groups and exercise leadership when appropriate. |
| 2 - | Act responsibly in personal and professional relationships. |
| 3 - | Take responsibility for their own learning and continuing personal and professional development. |
| 4 - | Act ethically and consistently with high moral standards in personal and public forums. |

| Course Topic And Contents : | | | |
|---------------------------------------|---------------------|------------------------------|-----------------------------|
| Topic | No. of hours | Lecture | Tutorial / Practical |
| Chemistry of Carbohydrates | 3 | Chemistry of Carbohydrates | |
| Chemistry of Lipids | 3 | Chemistry of Carbohydrates | |
| Chemistry of Proteins and Amino acids | 3 | Chemistry of Carbohydrates | |
| Enzymes | 3 | Chemistry of lipids | |
| Digestion | 3 | Chemistry of lipids | |
| Metabolism of Carbohydrates | 3 | Chemistry of amino acids | |
| Metabolism of lipids | 3 | Chemistry of proteins | |
| Metabolism of proteins | 3 | Chemistry of proteins | |
| Body fluids | 3 | Chemistry of immunoglobulins | |
| Vitamins | 3 | Chemistry of nucleotides | |

Course Topic And Contents :

| Topic | No. of hours | Lecture | Tutorial / Practical |
|----------------------------|--------------|----------------------------|----------------------|
| Chemistry of nucleotides | 3 | Chemistry of nucleotides | |
| Chemistry of nucleic acids | 3 | Chemistry of nucleic acids | |
| Chemistry of enzymes | 3 | Chemistry of enzymes | |

Teaching And Learning Methodologies :

Lectures

Practical training

Small group discussion

Assignments

Course Assessment :

| Methods of assessment | Relative weight % | Week No | Assess What |
|---------------------------|-------------------|---------|---|
| Final Written Examination | 25.00 | | |
| Mid Term Examination | 30.00 | | Assess knowledge and understanding |
| Oral Examination | 10.00 | | assess intellectual skills |
| Practical Examination | 15.00 | | |
| Practical mid-term | 20.00 | | assess practical skills & General and transferable skills |

Course Notes :

Essential Books (Text Books): Lippincott's illustrated Biochemistry

Recommended books :

Harper's Biochemistry

Periodicals :

Web Sites