

King Saud University

College Of Science

Department of Biochemistry

Syllabus for BCH 340 – Metabolism 1

1st Semester 1442 – 2020

Meeting Times

Sun, Thu & Thr at 11- 12am

Instructors

Dr. Salman Alamery

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When can you see me?

(During office hours or by appointment) The best way to reach me for questions, appointments etc. is by email or talk to me after class or in lab to set up a time to meet.

Course Description

The students get important knowledges from this course about:

- Carbohydrate metabolism: digestion and absorption of carbohydrates, glycolysis, Citric acid cycle, Gluconeogenesis, glycogenesis, pentose phosphate shunt, defect in carbohydrate metabolism.
- Lipid metabolism: digestion and absorption of lipids, lipogenesis and lipolysis, oxidation of fatty acids, biosynthesis of fatty acids, metabolism of triglycerides and phospholipids , defect in lipid metabolism

Course Objectives and Outcomes

- Knowledge on the metabolic pathways and regulatory processes occurring in biological systems.
- Understanding of some of the sophisticated levels of control within and between metabolic pathways.
- apply metabolic pathways related topics on the cellular and living systems.
- realize the importance of energy and ATP in controlling catabolism and anabolism

Reference textbook

Lehninger, Principles of Biochemistry, David L. Nelson; Michael M. Cox, W. H. Freeman

Lecture schedule

Lecture
Introductory
Introduction to metabolism
Glycolysis and its regulation
Gluconeogenesis
Citric acid cycle
Defects in carbohydrate metabolism
Glycogen metabolism
Pentose phosphate pathway
Oxidative phosphorylation and ATP synthesis
Biosynthesis of fatty acids
Lipolysis and lipogenesis
Oxidation of fatty acids
Ketogenesis

