

THOMAS ADEWUMI UNIVERSITY**COURSE OUTLINE**

Faculty	Computing and Applied Sciences	
Department	Biological Sciences	
Course Title	LIPID METABOLISM	
Year of Study	2	
Course Code	BCM 225	
Credit Hours	2	
Contact Hours	30	
Mode of Delivery	Classroom Lectures	
Mode of Assessment		Weight %
Continuous Assessment		40%
Final Examination		60%
Total		100 %
Course Lecturers	FAROHUNBI S.T.	
Course Description	The course is expected to expose the students to the structure and metabolism of Lipids. The course will also teach the students the major metabolic pathways in lipid metabolism.	
Course objective	This course would enable the understanding of the following: <ol style="list-style-type: none">1. Introduction to Lipids2. Fatty acids: structure and classes; saturated and unsaturated3. Metabolism and oxidation of fatty acids4. Chemistry and metabolism of cholesterol5. Storage and structural lipids6. Biosynthesis of lipids7. Lipid related Diseases	

Learning Outcomes	By the end of the course, student will be able to explain the following using relevant pathways: <ol style="list-style-type: none"> 1. Oxidation of Fatty acids 2. Chemistry of storage and structural lipids 3. Chemistry and metabolism of cholesterol 4. Biosynthesis of lipids and lipid related diseases
Teaching and Learning	The class will meet for two hours each week. Class time will be used for a combination of lectures and Tutorial sessions
Detailed Course Content	Blood Lipids. Oxidation of Fats. Biosynthesis of Lipids. Phospholipids. Unsaturated fatty acids. Essential fatty acids

Course content sequencing

Weeks	Detailed Course Outline	Allocated Time
Week 1-2	Introduction to Lipids Classes of Lipids	4 hours
Week 3-4	Fatty Acids: Structure and Classes of Fatty acids Physical and Chemical Properties of Lipids Trans Fats	4 hours
Week 5-7	Oxidation of Fatty acids Essential Fatty acids	6 hours
Week 8-9	Biosynthesis of Lipids Cholesterol: chemistry, synthesis, and breakdown	4 hours
Week 10	Blood Lipids (Cholesterol and Triglyceride) Lipid- Related Diseases	2 hours
After Week 12	Examinations	

Recommended Reading Material

1. David, L., Nelson, D.L., Cox, M.M., Stiedemann, L., McGlynn Jr, M.E. and Fay, M.R., 2000. Lehninger principles of biochemistry.
2. Lieberman, M. and Marks, A.D., 2009. *Marks' basic medical biochemistry: a clinical approach*. Lippincott Williams & Wilkins.

3. Rodwell, V.W., 2015. *Harper's illustrated biochemistry*. McGraw-Hill Education.
4. Vasudevan, D.M., Sreekumari, S. and Vaidyanathan, K., 2019. *Textbook of biochemistry for medical students*. Jaypee brothers Medical publishers.
5. Chatterjea, M.N. and Shinde, R., 2011. *Textbook of medical biochemistry*. Wife Goes On.

Course Code: BCM 225

Course Title: Lipid Metabolism

Preamble: Biochemistry is the study of biological and structural functions of biomolecules and their metabolism.

A. Specific Course Objectives/Learning Outcomes

This course would enable the understanding of the following

1. Introduction to Lipids
 2. Fatty acids: structure and classes; saturated and unsaturated
 3. Metabolism and oxidation of fatty acids
 4. Chemistry and metabolism of cholesterol
 5. Storage and structural lipids
 6. Biosynthesis of lipids
- Lipid related Diseases

Learning Activities/Course Delivery Methods

Lectures: Detailed content of course are taught in class

Course Content: Blood Lipids. Oxidation of Fats. Biosynthesis of Lipids. Phospholipids. Unsaturated fatty acids. Essential fatty acids