Accord University
Master of Nutrition

Course: Advanced human nutrition			
Level: Master	**Academic year:** 2021/22	**Semester:** 1	**Hours:** 3

Instructor: Dr. Odulusi Daniel
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Classes will be held each week on *Saturday (04:00-6:00 PM Time)*

Google Drive link for the materials:
https://drive.google.com/ (we will create it for you)

COURSE DESCRIPTION:

Advanced Nutrition is designed to provide students with a thorough understanding of human metabolism. The course begins with a review of cellular physiology and the digestive system, basic components necessary for metabolic processes. The metabolism of carbohydrates, lipids, proteins and amino acids, which explains how food is converted into useful energy, will be explored. The integration and regulation of metabolism and its effects on energy expenditure and body composition will be discussed. The final section of the course focuses on synthesizing knowledge of nutrition science to understand the role of diet in human health. Upon the completion of the course, students will be able to describe how food is converted into energy and explain the science underlying controversial topics in nutrition.

The class format is a combination of lecture, assignments and discussion. Since readings are not large in scope, students are required to read the assigned readings before coming to the class for the discussion.

RECOMMENDED READINGS:

1. **Students are required to read the textbook, Advanced Nutrition and Human Metabolism 7th edition, by Gropper and Smith (ISBN: 9781305627857).**
2.

SCHEDULE:

Week	Date	Topic	Literature
1.	April 10, 2021	Introduction to the course Introduction Cellular components, Cellular energy and reduction potentials	Advanced Nutrition and Human Metabolism 7th edition, by Gropper and Smith (ISBN: 9781305627857). Chapter 1.
2.	April 17, 2021	The upper digestive tract, The lower digestive tract, Regulation of digestion. Dietary carbohydrate digestion, absorption, and storage, Glycolysis and tricarboxylic acid cycle, The electron transport chain and the formation of ATP, The pentose phosphate pathway and gluconeogenesis, Dietary fiber	Chapter 2 Chapter 3 Chapter 4
3.	April 24, 2021	Lipid structure and biological importance, Lipid digestion and absorption, Lipid transport and storage, Lipid catabolism and synthesis, Integrated lipid metabolism	Chapter 5
4.	May 1, 2021	Amino Acids, Protein, Protein catabolism, Protein malnutrition Integration and regulation of metabolism	Chapter 6 Chapter 7

		Integration and regulation of metabolism: exercise Integration and regulation of metabolism: starvation Integration and regulation of metabolism: energy balance Integration and regulation of metabolism: metabolic syndrome Integration and regulation of metabolism: alcohol	Chapter 8
		Integrated group presentations and reading assignments	
5.	May 3 – 5, 2021	50% - Final exam	Final exam