



**Course Descriptor**  
**AHND 360 Nutritional Metabolism**

<b>Proposed Academic Year</b>	2020-2021	<b>Last Reviewed Academic Year</b>	
<b>Course Code</b>	AHND 360	<b>Course Title</b>	Nutritional Metabolism
<b>Credit hours</b>	3 (3+0)	<b>Level of study</b>	Bachelor
<b>College / Centre</b>	CAHS	<b>Department</b>	FSHN
<b>Co-requisites</b>		<b>Pre-requisites</b>	AHND 262, AHND 210, AHND 281

**1. COURSE OUTLINE**

The course introduces the students to introductory topics in nutritional metabolism. The topics include: concepts of nutrients balance, flux, turnover and metabolic pools, energy metabolism at the cellular level, metabolic pathways of synthesis and degradation of lipids, carbohydrates, proteins and amino acids, macronutrient metabolism in major organs and tissues and substrate flux in long term and short term fasting. []

**2. AIMS**

[This course aims to:

1. Students demonstrate knowledge of the anabolic and catabolic processes of carbohydrate metabolism
2. Students demonstrate knowledge of the anabolic and catabolic processes of lipids and fatty acids metabolism
3. Students demonstrate knowledge of the anabolic and catabolic processes of protein and amino acids metabolism
4. Students recognize how the metabolism in different organs and tissues adjust to different nutritional states].

**3. LEARNING OUTCOMES, TEACHING, LEARNING and ASSESSMENT METHODS**

<b>Learning Outcomes (Definitive)</b>	<b>Teaching and Learning methods (Indicative)</b>	<b>Assessment (Indicative)</b>
Upon successful completion of this course, students will be able to:		
1. Understanding the principals of metabolic pathways.	Lectures and tutorials	Written examination, quizzes
2. Understanding the rationale and concepts regarding glucose and glycogen regulation.	Lectures and tutorials	Written examination, quizzes
3. Recognize how carbohydrates are processed in the human	Lectures and tutorials	Written examination, assignment, quizzes



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body to provide energy via glycolysis, tri-carboxylic acid cycle and the coupling of electron transport system with oxidative phosphorylation		
4. Demonstrate knowledge of digestion, absorption and transport of fat by lipoproteins and the storage of triglycerols in the adipose tissues	Lectures and tutorials	Written examination, assignment, term project
5. Demonstrate knowledge of how the human body oxidize fatty acids to produce and store energy for various nutritional states.	Lectures and tutorials	Written examination, quizzes
6. Identify how the different metabolic pathways are integrated to provide the body vital metabolites needed for building macromolecules and providing energy in post prandial state.	Lectures and tutorials	Written examination, assignment, quizzes

**4. ASSESSMENT WEIGHTING**

Assessment	Percentage of final mark (%)
Quizzes	15%
Assignment	15%
Mid-Term Exam	30%
Final Exam	40%
<b>TOTAL</b>	<b>100%</b>

**5. ACHIEVING A PASS**

Students will achieve **xx** credit hours for this course by passing **ALL** of the course assessments [*alternatively, list the compulsory pass assessments\**] and achieving a **minimum overall score of xx%**

***NB \*Ensure that ALL learning outcomes are taken into account***





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<b>TOTAL HOURS</b>	<b>45</b>
Plus <b>RECOMMENDED INDEPENDENT STUDY HOURS</b>	<b>15</b>
<b>TOTAL COURSE HOURS</b>	<b>60</b>

**7. RECOMMENDED REFERENCES**

**Core text/s:**

1. David A. Bender. Introduction to Nutrition and Metabolism, 2014, Fifth Edition, CRC Press, Taylor and Francis Group, New York.
2. Advanced Nutrition and Human Metabolism, 6th Ed, Wadsworth Cengage, 2013.

**Library + online resources:**

**Open Educational Resources:**



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