Tutorial Letter 101/3/2018

Introduction to nutrition and energy-yielding nutrients

NUT1501

Semesters 1 and 2

Department of Life and Consumer Sciences

This tutorial letter contains important information about your module.
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1 INTRODUCTION

Dear Student

We would like to welcome you as a student of this module in nutrition (NUT1501)! We hope that you will have a pleasant and fruitful academic year.

The purpose of this tutorial letter is to convey important information pertaining to NUT1501. It is very important that your first assignment reaches Unisa on or before the due date. This is the assignment on which Unisa receives its subsidy from the Department of Education. Students who have not submitted this assignment by the due date will not be allowed to write the examination.

2 PURPOSE AND OUTCOMES

2.1 Purpose

Students who have worked through this module should be able to know, understand and apply the principles and theory necessary to promote sound nutritional practices in order to maintain good health. They should be able to demonstrate the ability to apply basic nutrition information as well as to recognise, identify and rectify nutrition deficiencies.

2.2 Outcomes

The student should be able to

- discuss the concepts of nutrition, food groups, nutritional goals and the importance of good nutrition
- adopt a critical approach to contemporary topics in nutrition
- classify foods according to their functions into main groups and recommend portions
- adapt the portions from each food group for different age groups and circumstances
- discuss the relationship among major nutrient groups and the main functions of nutrients
- discuss the composition, classification, quality, functions, requirements, affecting requirements, food sources, excess and deficiencies of energy yielding nutrients
- describe and explain the symptoms, prognosis and treatment of energy yielding nutrient deficiency diseases
- identify risk factors in individuals for nutrient deficiency diseases, and make recommendations for the treatment of energy yielding nutrient deficiency diseases in order to improve the health status of the individual

3 LECTURER(S) AND CONTACT DETAILS

3.1 Lecturer(s)

Your lecturer for this module is Dr Tertia S van Eeden.
Follow the procedures given in the *Study @ Unisa* brochure to become a user of myUnisa. You will find the option “course contact” on the grey bar on the left-hand side. You will be able to e-mail your lecturer via the “course contact” option. Please have your study material and student number ready when contacting your lecturer with queries concerning the course.

### 3.2 Department

The Department of Life and Consumer Sciences is located at the Unisa Florida Campus (Roodepoort).

<table>
<thead>
<tr>
<th>Secretary’s telephone number</th>
<th>+2711 471 2230</th>
</tr>
</thead>
<tbody>
<tr>
<td>Departmental fax number</td>
<td>+2711 471 2796</td>
</tr>
<tr>
<td>College administrator’s email address</td>
<td><a href="mailto:CAESenquiries@unisa.ac.za">CAESenquiries@unisa.ac.za</a></td>
</tr>
</tbody>
</table>

### 3.3 University

You can use the following methods to contact the university:

**Unisa website:** [http://www.unisa.ac.za](http://www.unisa.ac.za) & [http://mobi.unisa.ac.za](http://mobi.unisa.ac.za)

**myUnisa:** [https://my.unisa.ac.za/portal](https://my.unisa.ac.za/portal) & [https://my.unisa.ac.za/portal/pda](https://my.unisa.ac.za/portal/pda)

**E-mail:** info@unisa.ac.za

**SMS:** 32695 (only for students in South Africa)

**Fax:** 012 429 4150

You will find general Unisa contact details in the *Study @ Unisa* brochure.

### 4 RESOURCES

#### 4.1 Prescribed books

The titles of your prescribed textbooks are:

1/31/2014 © 2015  
Publishers: GIFSA  
ISBN: 9780620291798
Please refer to the list of official booksellers and their addresses in the *Study @ Unisa* brochure. Prescribed books can be obtained from the university’s official booksellers. If you have difficulty in locating your book(s) at these booksellers, please contact the Prescribed Book Section at telephone number: 012 429-4152 or email vospresc@unisa.ac.za.

These books should also be available at any of the official Unisa booksellers. If not, you can order it on the internet at [http://amazon.com](http://amazon.com) or [http:www.exclusivebooks.com](http://www.exclusivebooks.com). Second-hand books are available at the following websites: [http://www.amazon.com](http://www.amazon.com) or [http://www.fetchbooks.com](http://www.fetchbooks.com)

4.2 **Recommended books**

There are no recommended books for this module.

4.3 **Electronic reserves (e-reserves)**

There are no e-reserves for this module. Announcements will be posted on myUnisa as and when required.

4.4 **Library services and resources information**

For brief information, go to [www.unisa.ac.za/brochures/studies](http://www.unisa.ac.za/brochures/studies)

For detailed information, go to the Unisa website at [http://www.unisa.ac.za/](http://www.unisa.ac.za/) and click on Library.

For research support and services of personal librarians, go to [http://www.unisa.ac.za/Default.asp?Cmd=ViewContent&ContentID=7102](http://www.unisa.ac.za/Default.asp?Cmd=ViewContent&ContentID=7102).

The library has compiled a number of library guides:

- finding recommended reading in the print collection and e-reserves – [http://libguides.unisa.ac.za/request/undergrad](http://libguides.unisa.ac.za/request/undergrad)
- requesting material – [http://libguides.unisa.ac.za/request/request](http://libguides.unisa.ac.za/request/request)
- postgraduate information services – [http://libguides.unisa.ac.za/request/postgrad](http://libguides.unisa.ac.za/request/postgrad)
- finding, obtaining and using library resources and tools to assist in doing research – [http://libguides.unisa.ac.za/Research_Skills](http://libguides.unisa.ac.za/Research_Skills)
- how to contact the library/finding us on social media/frequently asked questions – [http://libguides.unisa.ac.za/ask](http://libguides.unisa.ac.za/ask)

5 **STUDENT SUPPORT SERVICES**

5.1 **The Directorate for Counselling, Career and Academic Development (DCCAD)**

The DCCAD supports prospective and registered students before, during and after their Unisa studies. There are resources on their website, and also printed booklets available to assist you with:

- career advice and how to improve your employability
- study skills
- academic literacy (reading, writing and quantitative skills)
• assignment submission and exam preparation

Contact details

Website http://www.unisa.ac.za/counseling

E-mail for counselling counseling@unisa.ac.za

E-mail for academic literacy acalit@unisa.ac.za

Further important information appears in the brochure Study @ Unisa.

6 STUDY PLAN

The following is a detailed study plan for this module. Please note that this is merely a guideline and you can still work at your own pace although, by following the plan for the semester, you can be assured that your assignments will reach us on time and that you will be prepared for the exam. Use the Study @ Unisa brochure for general time management and planning skills. The Study and Assessment Plan for 2018 is as follows:

| INTRODUCTION TO NUTRITION AND ENERGY-YIELDING NUTRIENTS: NUT1501 |
|---|---|
| **Study and Assessment Plan for 2018 Semester 1 and 2.** |
| **Week** | **Date** | **Comments** |
| 1 | S1: 30 Jan  
S2: 17 July | o Make sure you have received all the study material.  
  o Purchase the prescribed textbook.  
  o Read through Tutorial Letter 101 carefully.  
  o Familiarise yourself with the assignments provided in Tutorial Letter 101 for the semester for which you are registered.  
  o Register on www.my.unisa.ac.za  
  o Read through the preface to the study guide carefully.  
  o Browse the rest of the study guide to get an idea of the contents.  
  o Browse Tutorial Letter 301 – note any information that is important for your assignments. |
| 2 | S1: 6 Feb  
S2: 24 July | o Prepare for Assignment 01.  
  o Work through study units 1 & 2. |
| 3 | S1: 13 Feb  
S2: 31 July | o Start working on Assignment 01.  
  o Work through study unit 3. |
| 4 | S1: 20 Feb  
S2: 7 Aug | o Work on Assignment 01.  
  o Work through study unit 4. |
| 5 | S1: 27 Feb  
S2: 14 Aug | o Complete Assignment 01.  
  o If submitting via ordinary post: post Assignment 01 no later this week.  
  o Work through study unit 5. |
| 6 | S1: 6 Mar  
S2: 21 Aug | o If submitting via myUnisa: complete assignment no later than this week (my.unisa.ac.za).  
  o Start working on Assignment 02.  
  o Work through and revise study units 1 & 2. |
| 7 | S1: 13 Mar  
S2: 28 Aug | o Work on Assignment 02.  
  o Work through and revise study unit 3. |
| 8 | S1: 20 Mar  
S2: 4 Sept | o Work on Assignment 02.  
  o Work through and revise study unit 4. |
<table>
<thead>
<tr>
<th>Week</th>
<th>S1</th>
<th>S2</th>
<th>Assignment Details</th>
</tr>
</thead>
</table>
| 9    | 27 Mar | 11 Sept | - Work on Assignment 02.  
- Work through and revise study unit 5. |
| 10   | 3 April | 18 Sept | - Complete Assignment 02.  
- If submitting via ordinary post: post Assignment 02 no later than this week. |
| 11   | 10 April | 25 Sept | - Complete Assignment 02.  
- If submitting via myUnisa: complete Assignment 02 no later than this week (myunisa.ac.za).  
- Revise study units 1 & 2 |
| 12   | 17 April | 2 Oct | - Work through returned Assignment 01.  
- Revise study unit 3. |
| 13   | 24 April | 9 Oct | - Work through the returned Assignment 02.  
- Revise study unit 4. |
| 14   | 1 May | 16 Oct | - Work through the returned Assignment 02.  
- Revise study unit 5. |
| 15   | 8 May | 23 Oct | - Work through examination guidelines posted on myUnisa.  
- Work through previous exam papers (see myUnisa).  
- Prepare for the exam. |

**Examination cycle starts**

### 7 PRACTICAL WORK AND WORK-INTEGRATED LEARNING

There is no practical work for this module.

### 8 ASSESSMENT

#### 8.1 Assessment criteria

Assignments are seen as part of the learning process for this module. As you do the assignments, study the reading texts, consult other resources, discuss the work with fellow students or do research, you should be actively engaged in learning. The assessment criteria given for each assignment will help you to understand more clearly what is required of you.

#### 8.2 Assessment plan

There are TWO assignments for NUT1501 for each semester. You will find the assignments in this tutorial letter in Appendix A and Appendix B.

Assignment 01 is compulsory and must be submitted in order for you to obtain admission to the examination. The second assignment is not compulsory. However, if you do not submit this assignment, your year mark will be very low and you might fail the module, even if you pass the examination. Thus, both assignments are important.
Summary of how your final mark will be calculated

Formative assessment:
Assignment 01 (10% of year mark)
Assignment 02 (90% of year mark)

Year mark (30% of final mark)

Summative assessment:
Examination

Examination mark (70% of final mark)

Final mark

8.3 Assignment numbers

8.3.1 General assignment numbers

Assignments are numbered consecutively per module, starting from 01. There are TWO assignments for NUT1501 for each semester. You will find the assignments in this tutorial letter in Addendum A (01) and Addendum B (02). Make sure that you complete the appropriate assignment for the specific semester for which you are registered for by checking the due date for submission.

8.3.2 Unique assignment numbers

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<td>02</td>
<td>863849</td>
<td>687123</td>
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8.4 Assignment due dates

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<th>Semester 1</th>
<th>Semester 2</th>
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<tbody>
<tr>
<td></td>
<td>Due date</td>
<td>Due date</td>
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<tr>
<td>01</td>
<td>6 March 2018</td>
<td>28 August 2018</td>
</tr>
<tr>
<td>02</td>
<td>10 April 2018</td>
<td>26 September 2018</td>
</tr>
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8.5 Submission of assignments

The assignments that you are required to submit during the semester must reach Unisa before or on the due date stipulated. Please complete and submit the assignment at least a week before the due date to ensure that we receive them in good time.

In exceptional circumstances such as a long-term illness, a valid medical certificate stipulating the illness will be considered as a reason for submitting an assignment late. Notify the lecturer well in advance. If no arrangements are made, the assignment will not be marked. Please attach the medical certificate to your assignment.
How to receive quicker online feedback and comments on your assignments

Unisa is implementing the onscreen marking of assignments to help you receive quicker feedback. We strongly encourage you to submit your assignments using this submission method instead of via the postal service.

Please submit your electronic assignment as a PDF document and not in another format (e.g. MS Word or Excel). By doing this you will facilitate the marking process and ensure that we receive your document. If you submit as a Word document there is also the likelihood that unintended changes could be made once it has been submitted; however with a PDF document no changes can be made to the content (you will only receive marks and comments).

To allow us to mark your assignment onscreen, you need to do the following:

1. Convert your electronic assignment into PDF format.

   *How do I create a PDF document from any other document format (e.g. MS Word, MS Excel etc)?*

   By downloading free software (i.e. PrimoPDF), you can create a printable PDF document from any type of document. Follow these easy steps:

   i. Go to the internet to the following website: [http://www.primopdf.com/index.aspx](http://www.primopdf.com/index.aspx)
   ii. Download the PrimoPDF software by clicking on the DOWNLOAD FREE prompt. Follow the instructions for installing the software.
   iii. In order to create a PDF document from your assignment, go to your assignment on your PC and, instead of printing your assignment to an actual printer, choose PrimoPDF as printer. To do this, click on the Microsoft Office Button (or “File” button for older versions of Microsoft), and then click Print. Then, choose the printer from the drop-down list, which in this case should be PrimoPDF.
   iv. You will now receive a pop-up message. Click the “Create PDF” button. Indicate in the “Save as:” pop-up where you want to save the PDF assignment on your PC.
   v. The PDF version of your assignment will now appear for you to view.

2. Submit the PDF document (your assignment) via myUnisa (online). For guidance on how to submit an assignment via myUnisa, consult the Study @ Unisa brochure.

8.6 The assignments

Assignments are seen as part of the learning process for this module. As you do the assignments, study the reading texts, consult other resources, discuss the work with fellow students or tutors or do research, you are actively engaged in learning. Looking at the assessment criteria given for each assignment will help you to understand what is required of you more clearly.

There are two assignments for this module for each semester. You will find the assignments in:
- Addendum A: Assignment 01 Semesters 1 and 2
- Addendum B: Assignment 02 Semesters 1 and 2 in this tutorial letter.

The due dates for each assignment are given in Addenda A and B.
The **first** assignment of each of your courses is **compulsory**. You will qualify for **examination admission** for a course only if you submit the first assignment by the due date. If more than one assignment is set for a course, all the assignments for that course will be taken into consideration when calculating your year mark. Thus, to ensure a good year mark that can improve your final mark, submit all your assignments in time.

### 8.7 Other assessment methods

Not applicable

### 8.8 The examination

Consult the *Study @ Unisa* brochure for general examination guidelines and examination preparation guidelines.

This module is offered in a semester period of fifteen weeks. This means that if you are registered for the first semester, you will write the examination in May/June 2018 and the supplementary examination will be written in October/November 2018. If you are registered for the second semester you will write the examination in October/November 2018 and the supplementary examination will be written in May/June 2019.

For examination admission it is compulsory to hand in the first assignment for this module. It will also be to your advantage to do the assignments in order to test your understanding of the subject, and to establish how well prepared you are for the examination. You need to obtain a minimum of 40% in your examination to pass. If you do not obtain at least 40% in the examination you will fail, even if the combination of year and examination marks is more than 50%. You will also need a minimum of 40% in the examination to obtain admission to a supplementary examination.

You will have the opportunity to give account of your studies in a two-hour examination paper (per module). You will receive a letter containing the date, place and examination venue. The examination guidelines posted on myUnisa will give you pointers on how to prepare for the examination. Revision should be done thoroughly before the examination. Contact us immediately if you encounter any problems. Students can also refer to the *Study @ Unisa* brochure for general examination guidelines and examination preparation guidelines.

The duration of the examination is two (2) hours and the paper will consist of questions such as those requiring you to provide definitions of terms, draw labelled diagrams as well as answer short and longer essay-type questions.

### 9 FREQUENTLY ASKED QUESTIONS

The *Study @ Unisa* brochure contains an A-Z guide of the most relevant study information.

### 10 SOURCES CONSULTED

*Study @ Unisa* brochure

### 11 IN CLOSING

We hope that you will enjoy this module.

### 12 ADDENDUM
ADDENDUM A: ASSIGNMENT 01

<table>
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<th>Assignment number</th>
<th>Semester 1</th>
<th>Semester 2</th>
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<tbody>
<tr>
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<td>Due date</td>
<td>Unique number</td>
</tr>
<tr>
<td>01</td>
<td>6 March 2018</td>
<td>771659</td>
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INSTRUCTIONS

1) Assignment 01 consists of multiple-choice questions (MCQ).

2) Make sure that you include the semester specific unique number and use the mark-reading sheet provided to answer the questions.

3) Fill in all your personal details on the mark-reading sheet. This mark reading sheet must be submitted to Unisa for assessment in a Unisa envelope.

4) Indicate the correct answer clearly by shading in the appropriate number on the mark-reading sheet with an HB pencil. If more than one number is shaded in any answer, no marks will be awarded for that question.

5) Consult the Study @ Unisa brochure for more detailed information on filling in mark-reading sheets.
QUESTION 1: Multiple-choice questions 1 x 25 = [25]

The purpose of this assignment is to familiarise you with the contents of the study material using techniques designed to improve your study skills. Note that although Assignment 01 focuses on the content of the study guide, you will have to consult both the textbook and the study guide to answer Assignment 02.

Read the relevant sections in your study guide, and then answer the questions below by shading the answer next to the corresponding number on the mark-reading sheet.

1.1 Which of the following statements are incorrect?

1. The basic unit of all existing matter is an molecule
2. If two or more similar atoms combine, an element form
3. If two or more different atoms combine, a compound form
4. To or more similar of different atoms combined are molecules
5. Carbohydrates, protein and fat are molecules

1.2 If Susan weighs 64kg, which percentage of her body weight is water?

1. 80%
2. 30%
3. 60%
4. 20%
5. 100%

1.3 Which of the following nutrients are not macronutrients?

a) Vitamins
b) Carbohydrates
c) Fat
d) Water
e) Protein

Choose the correct answer

1. b, c and e
2. a, c and d
3. d and e
4. a and d
5. b and c
1.4 A 38 year old man consumes 2675 kcal energy per day. Convert this value into the correct SI unit.

1. 637 calories
2. 11235 kilojoules
3. 637 calories
4. 11235 kcal
5. 11235 joules

1.5 Which of the following nutrients provide the most energy per 1 gram?

1. Alcohol
2. Protein
3. Fat
4. Carbohydrates
5. Vitamins

1.6 One (1) gram of carbohydrates provides …

1. 17 kilojoules
2. 29 kilojoules
3. 38 kilojoules
4. 17 kilocalories
5. 4 kilojoules

1.7 How much energy is in 65 g of fat?

1. 1.7 kilojoules
2. 38 kilojoules
3. 1150 kilojoules
4. 1885 kilojoules
5. 2470 kilojoules

1.8 Preston consumes a total of 7800 kilojoules per day and his diet consists of 55% of carbohydrates. Calculate the quantity of carbohydrates that his diet provides per day in grams.

1. 4290 g
2. 252 g
3. 112 g
4. 141 g
5. 458 g
1.9 Calculate the energy density of a meal consisting of a 290 g hamburger if the energy content is 2100 kilojoules.

1. 7.2 kJ/g
2. 609000 kJ/g
3. 2100 kJ
4. 290 g
5. 72 kJ/g

1.10 The measuring of nutrients a food provides relative to the energy it provides is called the ...

1. empty-kilojoule foods.
2. kilojoule control.
3. nutrient density.
4. moderation.
5. dietary balance.

1.11 Which of the following is not a South African Food Based dietary guideline?

1. Many starches are high in energy and should be excluded from the diet
2. Eat dry beans, peas, lentils and soya often
3. Avoid meat, fish, chicken, milk and eggs
4. Eat as much fats as you like
5. Add salt to all your food to enhance the flavour

1.12 Which of the following statements regarding diet-planning guides are correct?

1. In South Africa we don’t have a food-group plan like in America
2. In South Africa we use the FBDGs and the diabetic exchange list as guides when planning a diet.
3. The American food-plate model is unofficially used in our country as a dietary education tool.
4. The concept of the food pyramid is flawed and is replaced by the food-plate model.
5. All of the above.

1.13 One bread/starch exchange consists of ...

1. 12 g carbohydrates; 8 g protein and 8 g fat.
2. 5 g carbohydrates; 2 g protein.
3. 15 g carbohydrates; 2 g protein.
4. 15 g carbohydrates.
5. 7 g protein; 5g fat.
1.14 Which one of the following statements is false?

1. Food-labelling legislation increase health awareness
2. Food labelling assists the consumer in making healthier food choices
3. It is not necessary to state the allergens on the food label
4. The use by date or best before date should always be on the food label
5. None of the above.

1.15 Which of the following is not a function of carbohydrates?

1. It is a source of energy
2. It is stored as energy in liver and muscle for later use
3. It is an important component of the structure of cell membranes
4. It is an important component in the structure of DNA and RNA
5. It is fat sparing

1.16 Sucrose consists of … .

1. maltose + lactose
2. glucose + fructose
3. glucose + glucose
4. glucose + galactose
5. galactose + fructose

1.17 Which answer does not fit?

1. Sucrose
2. Maltodextrins
3. Fructo-oligosaccharides
4. Non-starch polysaccharides
5. Raffinose

1.18 Which one of the following statements is true?

1. A high sugar and carbohydrate intake causes diabetes
2. Hypoglycaemia is when blood glucose rises after a meal and remains above normal
3. Glycaemic response is the extent to which food increase the blood glucose levels
4. Type 1 diabetes is when the cells fail to respond to insulin
5. Type 2 diabetes is when the pancreas fails to produce insulin
1.19 Which one of the following statements is true?

1. A fatty acid with at least one double bond is called an unsaturated fatty acid
2. Linoleic acid has two double bonds which make a polyunsaturated fatty acid
3. The process of hydrogenation makes fats healthier
4. Some peanut butter contains trans-fatty acids
5. None of the above

1.20 Which statement regarding the role of triglyceride in the body is not true?

1. It is a good emulsifier
2. It provides insulation against heat loss
3. It increases satiety
4. It is a high energy storage fuel
5. It is a long-term storage fuel

1.21 Sardines is an example of … .

1. saturated fatty acid.
2. monounsaturated fatty acid.
3. trans fatty acid.
4. omega-3 fatty acid.
5. omega-6 fatty acid.

1.22 Unsaturated fatty acids … .

1. increase the risk of developing of heat diseases
2. is not beneficial in lowering blood cholesterol levels
3. should rather be replaced by saturated fats in the diet
4. fish is not a source of unsaturated fatty acids
5. in excessive amounts contribute to weight gain

1.23 How do protein molecules differ from one another?

1. The total number of glucose molecules in the chain
2. The amount of amino acid in the chain
3. The amount of each amino acids in the chain
4. All of the above
5. None of the above

1.24 Which statement is false?

1. Protein provides us with energy through the process of gluconeogenesis
2. Protein is needed for growth maintenance and repair of body tissue
3. A deficient intake of protein can lead to the development of chronic diseases
4. The smallest building block of protein is amino acids
5. None of the above
1.25 Which of the following is an example of negative nitrogen balance?

1. Growing children
2. Pregnancy
3. Body builders
4. Protein energy malnutrition
5. Recovery from illness

TOTAL MARKS: 25

END OF ASSIGNMENT 01
INSTRUCTIONS

1) Assignment 01 contains multiple-choice questions (MCQ).

2) Make sure that you include the semester specific unique number and use the mark-reading sheet provided to answer these questions.

3) Fill in all your personal details on the mark-reading sheet.

4) Indicate the correct answer clearly by shading in the appropriate number on the mark-reading sheet with an HB pencil. If more than one number is shaded in any answer, no marks will be awarded for that question.

5) See the Study @ Unisa brochure for more detailed information on filling in mark-reading sheets.
QUESTION 1: Multiple-choice questions  

The purpose of this assignment is to familiarise you with the contents of the study material using techniques designed to improve your study skills. Note that although Assignment 01 focuses on the content of the study guide, you will have to consult both the textbook and the study guide to answer Assignment 02.

Read the relevant sections in your study guide, and then answer the questions below by shading your answer next to the corresponding number on your mark-reading sheet.

1. If Charlie weighs 90kg his fat percentage is 30%. Calculate the amount of fat in his body in kilograms.
   
   1. 30 g
   2. 27 g
   3. 3 g
   4. 33 g
   5. 10 g

2. Sibongile is 44 years old and weighs 130 pounds. Convert this value to the correct SI unit.

   1. 150 kilogram
   2. 150 grams
   3. 59 kilogram
   4. 68 ounces
   5. 150 kilojoules

3. How much energy, in kilojoules, is in 90 g of protein?

   1. 5 kilojoules
   2. 17 kilojoules
   3. 1530 kilojoules
   4. 2610 kilojoules
   5. 3420 kilojoules

4. Harry consumes a total of 10 800 kilojoules per day and his diet consists of 30% fat. Calculate the amount of fat in grams that his diet provides per day.

   1. 3240 g
   2. 85 g
   3. 360 g
   4. 248 g
   5. 38 g
5. Calculate the energy density of a 50 g packet of chips if it provides 1850 kilojoules of energy.
   1. 37 kJ/g
   2. 1850 kJ/g
   3. 92500 kJ/g
   4. 1850 kJ
   5. 50 g

6. Which of the following statements are false? Dietary reference intakes … .
   1. are used to determine the “goal for good nutrition” for both groups of people and individuals
   2. are there to maximise health and improve quality of life
   3. is an indicator of optimal nutrient intake which assists
   4. used to evaluate and plan a diet for people with specific disease conditions
   5. All of the above

7. The AMDR for carbohydrates for adults are:
   1. 10-35%
   2. 20-35%
   3. 45-65%
   4. 30-40%
   5. 55%

8. Which of the following statements are true?
   1. A healthy diet is not important for the maintenance of long-term health.
   2. Weight gain is not a risk factor for the development of chronic diseases of lifestyle.
   3. An example of chronic diseases include are HIV/AIDS.
   4. A low food intake can lead to the development of macro- and micronutrient deficiencies.
   5. A poor nutrient intake has no effect on health.

9. Which statement regarding is true?
   1. The more the nutrients and the fewer the kilojoules the higher the nutrient density.
   2. The less nutrients and the more the kilojoules the higher the nutrient density.
   3. Foods high in nutrient density are called empty-kilojoules foods.
   4. The consumption of nutrient dense food will lead to overeating and weight gain.
   5. None of the above statements are true.
10. Which one of the following statements is false regarding the South African Food based dietary guidelines?

1. FBDGs should be used as a basis for education on nutrition.
2. FBDGs are a standard for healthy eating in South Africa.
3. The goals of the guidelines are to promote good health, and prevent the development of undernutrition and over nutrition-related chronic diseases.
4. FBDGs are for healthy South Africans.
5. The guidelines include children younger than five years, the elderly, pregnant and lactating women, and people with specific disease conditions.

11. The heart and stroke foundation developed the ‘heart mark’ to make it easy to identify healthy food products on the shelf. Which of the following statements is not endorsed by the heart mark?

1. Low in cholesterol
2. Low in saturated fat and trans fats
3. Low in salt
4. High in added sugar
5. High in fibre

12. If you conduct a thorough nutritional assessment, what will you be able to detect?

1. Malnutrition
2. Hypertension
3. Diabetes Mellitus
4. Cancer
5. HIV/AIDS

13. Which one of the following foods is not a source of carbohydrates?

1. Legumes
2. Fruits and vegetables
3. Milk
4. Eggs
5. Bread
14. Which one of the following is an example of a complex carbohydrate?

1. Glucose
2. Oligosaccharides
3. Lactose
4. Dietary fibre
5. Inulin

Choose the correct answer

1. a and c
2. b, d and e
3. d and e
4. b and e
5. c, d and e

15. Which of the following aspects should be included when defining the broader term 'dietary fibre'?

1. Fibre does not contribute to the total energy intake.
2. Fibre can be divided into soluble and insoluble fibres.
3. Fibre has properties that are beneficial to health
4. Dietary fibre includes non-starch polysaccharides and resistant starch
5. All of the above.

16. Which of the following statement is false?

1. Glucose is stored in the liver and muscle through a process called glycogenogenesis.
2. When energy is needed glycogen is broken down into glucose through a process called gluconeogenesis.
3. When glucose stores are depleted glucose is formed from protein for energy.
4. Gluconeogenesis and lipolysis is a long term energy source.
5. None of the above.

17. Which of one the following foods have a high glycaemic index (GI)?

1. Yoghurt
2. Nuts
3. Potato
4. Apple
5. Sweet potato
18. A high intake of sugar can affect our health adversely, which of the following is not a health effect of sugar … .

1. obesity
2. micronutrient deficiencies
3. protein energy malnutrition
4. pregnancy
5. dental caries

19. Which of the following foods is not an example of saturated fats?

1. Full cream milk
2. Avocado pear
3. Potato chips
4. Butter
5. Cheese

20. Which statement is true?

1. The best known phospholipid is cholesterol.
2. A phospholipids is an example of an emulsifier.
3. An example of a sterol is linolenic acid.
4. Cholesterol help to prevent the formation of atherosclerosis.
5. All of the above statements are true.

21. Linolenic acid does not … .

1. stimulate the inflammatory process
2. increase HDL (good)- cholesterol
3. prevent atherosclerosis
4. lowers blood pressure
5. protect the heart

22. Which statement is false?

1. An essential amino acid need to be provided by the diet
2. A polypeptide is more than 10 amino acids linked together
3. A primary protein structure is a linear sequence if amino acids
4. A tertiary protein structure is two or more polypeptides that function as a unit
5. None of the above

23. What is the process called when egg is exposed to heat?

1. Hydrolysis
2. Gluconeogenesis
3. Denaturation
4. Protein synthesis
5. Lipolysis
24. Which of the following is not a function of protein?

1. Growth, maintenance and repair of tissue
2. Immune protective
3. Long term energy source
4. Facilitate chemical reactions
5. Insulation

25. Which of the following foods have the highest biological value?

1. Eggs
2. Fruit
3. Vegetables
4. Brown bread
5. Rice

TOTAL MARKS: 25

END OF ASSIGNMENT 01
NUT1501/101/3/2018

13 ADDENDUM B: ASSIGNMENT 02

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Due date</td>
<td>Unique number</td>
</tr>
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<td>10 April 2018</td>
<td>863849</td>
</tr>
</tbody>
</table>

INSTRUCTIONS

1) To complete Assignment 02, carefully study ALL the study units in study guide 1 together with the prescribed textbooks. You will find that the questions in this assignment relate mainly to the application of your theoretical knowledge.

2) Type your assignment on a computer. Use the font Arial, size 12 with 1.5 line spacing. If you are not able to type up your assignment on a computer, use a black or blue pen to complete the assignment.

3) Number your answers correctly.

4) Try to formulate the answers in your own words. Refer to Tutorial Letter 301 for guidance on citing the sources referred to and guidelines on avoiding plagiarism.

5) If you wish to submit your assignment online, please go to section 8 in this tutorial letter and follow the instructions given in section 8.5.

6) If you wish to post your assignment, please use the assignment cover and envelope provided. When stapling your answers inside the cover, staple only in the top left-hand corner.

7) Create a cover page for this assignment that contains the following information:
   a. Name
   b. Student number
   c. Unique assignment number
   d. Module code

Remember metric units and units of measurements. No marks will be awarded if the incorrect metric unit is used or if units of measurement are omitted from answers.
QUESTION 1

1. Explain the term “dietary reference intakes”. (4)

2. Why are DRIs used to evaluate and plan a diet for healthy people only and not for people with specific disease conditions? (1)

3. Define each of the four DRI reference values:
   • Estimated Average Requirement (EAR) (2)
   • Recommended Dietary Allowance (RDA) (2)
   • Adequate Intake (AI) (2)

4. Draw a diagram to illustrate the terms “malnutrition”, “undernutrition” and “overnutrition”. (6)

QUESTION 2

1. Explain the concept “AMDR”. (1)

2. Write down the AMDR reference ranges for carbohydrates, protein and fat for adults. (1)

3. What is the use of the AMDR? (1)

4. What happens if a person consumes more than the AMDR reference ranges? (1)

5. What happens if a person consumes less than the AMDR reference ranges? (1)

QUESTION 3

Mr Mphaphuli is 48 years old and he has a healthy body weight and no health problems. He consumes 200 g of carbohydrates, 120 g of fat and 220 g of protein per day. Please show all your calculations when answering the questions below.

1. Calculate the energy provided by each of the energy-yielding nutrients. (3)

2. Calculate Mr Mphaphuli’s total energy intake for the day. (1)

3. Calculate the percentage of energy each of the energy-yielding nutrients contributes to the total energy intake per day. (3)

4. Compare Mr Mphaphuli’s intake with the AMDR and comment whether or not his macronutrient distribution is acceptable. (4)
QUESTION 4

Mrs Naidoo is 42 years old. She is a personal assistant in a big corporate firm. She comes to you for advice regarding healthy eating habits. She gives the following diet history:

Breakfast: Coffee with 2 teaspoons of sugar and 2 heaped spoons of Cremora with 2 rusks
Inbetween: 2 cups of coffee (each with 2 teaspoons of sugar and Cremora) and if she is hungry she will snack on rusks
Lunch: Chicken or lamb curry with rice
Inbetween: Cup of coffee (2 teaspoons of sugar and Cremora) with a rusk
Dinner: Chicken or lamb curry with rice
After dinner: Cup of coffee (2 teaspoons of sugar and Cremora)

On further questioning she explains that she fries the chicken or lamb she uses in the curry and she seldom adds vegetables to the curry. This is more or less her eating pattern most days. She is not physically active and her work is sedentary, she sits behind her desk all day.

1. Evaluate Mrs Naidoo’s diet based on the six diet-planning principles and give reasons for your answers. In each instance give the definition for the diet planning principle and your explanation.  

2. Make suggestions on how Mr Hlongwane can improve his daily food intake. Tip: Use the definitions of each of the six diet-planning principles as a guide to answer this question. Remember to include examples in your answer.

QUESTION 5

Mosima is 30 years old. She maintains a healthy body weight but she feels that she is not making healthy food choices for her long-term health. She comes to you for nutritional advice.

According to Mosima’s energy requirements her recommended daily amount for each exchange group is as follows:

- Milk: 2 exchanges
- Fruits: 2 exchanges
- Vegetables: 4 exchanges
- Bread/starches: 6 exchanges
- Meat: 7 exchanges
- Fats: 5 exchanges
1. Develop a diet plan for Mosima by assigning different food groups to meals and snacks. Ensure that her food choices are healthy. Use the table below as guide. (5)

<table>
<thead>
<tr>
<th>Food</th>
<th>Total exchanges</th>
<th>Breakfast</th>
<th>Mid-morning snack</th>
<th>Lunch</th>
<th>Mid-afternoon snack</th>
<th>Supper</th>
<th>Snack (±1 hour before bed time)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Full-cream</td>
<td></td>
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<td>Low-fat</td>
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<tr>
<td>Skimmed or very low-fat</td>
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<tr>
<td>Vegetables</td>
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<tr>
<td>Fruit</td>
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<tr>
<td>Bread/starch</td>
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<td>Meat and meat substitutes:</td>
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<td>Very lean</td>
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<tr>
<td>Lean</td>
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<tr>
<td>Medium-fat</td>
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<tr>
<td>High-fat</td>
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<tr>
<td>Fat:</td>
<td></td>
<td></td>
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<tr>
<td>Monounsaturated</td>
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<tr>
<td>Polyunsaturated</td>
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<tr>
<td>Saturated</td>
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</tbody>
</table>

2. Develop a one-day sample menu (meal plan) for Mosima based on the diet plan in the previous question for Lerato. Remember to include all the meals and snacks. (10)

3. Give Mosima any eight healthy eating tips/advice that will help her to make healthier food choices in future; give an example with each tip. (16)

TOTAL MARKS: 100

END OF ASSIGNMENT 02
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QUESTION 1

The nutritional assessment of individuals or populations is an essential part of the nutritional care process. It gives information and clues about health. Answer the following questions.

1. One of the components of the nutritional assessment is historical information. Explain why you would obtain the following information:
   a) medical/health history (1)
   b) family history (1)
   c) economic circumstances (1)
   d) social factors (1)
   e) drug/medication history (1)
   f) dietary history (1)

2. Which two aspects/factors do you think are important to consider when taking a dietary history? (2)

3. Illustrate, with the aid of a figure, the stages of development of a nutrient deficiency by referring to what happens in the body and state which assessment method would reveal the change. Use iron as an example. (18)

QUESTION 2

Work through the example under the heading “How to compare foods based on nutrient density” in your textbook and do the “Try it” question at the bottom of the block. State which one of the two foods is more thiamine dense. Remember to use SI units and remember your units of measurement. Show all your calculations. (8)

QUESTION 3

1. Draw a food-plate model based on the American “ChooseMyPlate.gov” (5)

2. Give five nutritional guidelines to accompany your food plate. (5)

3. Give two examples of food-group plans used in South Africa. (2)

4. Describe in your own words what an exchange list is and how it works. (2)
5. Use the South African exchange list (not the American one) in Appendix D of your study guide to make a summary of the carbohydrate, protein, fat and energy contents of the different exchange groups. Remember to include the subgroups as well, for example: full cream, low fat, and skimmed; or very low fat, very lean, lean, medium fat, and high fat; or monounsaturated, polyunsaturated and saturated. Give two examples of a food in each exchange group. Use the table below as a guide. The first is completed for you as an example.

<table>
<thead>
<tr>
<th>Food group</th>
<th>Exchange</th>
<th>CHO (g)</th>
<th>Protein (g)</th>
<th>Fat (g)</th>
<th>Energy (kJ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk: Full cream</td>
<td>1</td>
<td>12</td>
<td>8</td>
<td>8</td>
<td>640</td>
</tr>
<tr>
<td>Examples whole/full cream milk; whole/ full cream powder</td>
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</tbody>
</table>

6. Explain how the exchange list assists in controlling energy and fat. (4)

**QUESTION 4**

1. What is the glycaemic index and how does it influence blood sugar control? (12)
2. What are the health benefits of following a low GI diet? (6)
3. Explain the difference between low, intermediate and high GI foods. (6)

**TOTAL MARKS: 100**

**END OF ASSIGNMENT 02**