

This set of lecture notes will cover all learning objectives of

Topic 1/Chapter 1 – Overview of Nutrition

1. Outline main social and behavioural forces influencing food choices. (Food Choices)
2. List the six classes of nutrients, describing their chemical make-up. (Nutrient Classes)
3. Outline the difference between essential and non-essential nutrients. (Nutrient Classes)
4. List the energy yielding nutrients and their energy content in kJ/g. (Nutrient Classes)
5. Be able to define and inter convert kcal and kJ. (Nutrient Classes)
6. Describe energy metabolism in the body and other roles of energy-yielding nutrients. (Nutrient Classes)
7. Describe vitamins and minerals and the role they play in nutrition. (Nutrient Classes)
8. Outline the process of advancement of nutrition knowledge. (Nutrition Research)
9. Define the terms: control, placebo, double blind, correlation, sample size. (Nutrition Research)
10. Differentiate between the results of scientific research and rumours or anecdotal evidence. (Nutrition Research)
11. Describe what Dietary Reference Intakes (DRI's) (US) and Nutrient Reference Values (NRV's) (Aust) are and define the following "Estimated Average Requirement" (EAR), "Recommended Dietary Intake" (RDI), "Adequate Intake" (AI) and "Upper Limit of intake" (UL). (Dietary Reference Intakes).
12. Define Estimated energy requirement (EER) and state the "Acceptable Macronutrient Distribution Range" (AMDR) for protein, carbohydrate and fat (Dietary Reference Intakes)
13. Describe how minimal requirements for vitamins and minerals are established. (Dietary Reference Intakes)
14. Describe how RDI's/AI's are established for vitamins and minerals. (Dietary Reference Intakes)
15. Outline the difference between energy and nutrient RDI's. (Dietary Reference Intakes)
16. Describe how RDI values are used. (Dietary Reference Intakes)
17. Describe how a nutrition assessment is made on individuals. (Nutrition Status Assessment)
18. Describe how a nutrition assessment is made on a population. (Nutrition Status Assessment)
19. List the common causes of death in Western society known to be diet related (Diet & Health)
20. Define: risk factors, chronic diseases primary deficiency, secondary deficiency, subclinical deficiency. (Diet & Health)
21. Outline the main recommendations on Diet and health, relevant in western societies. (Diet &Health)
22. Be able to identify sources of scientifically accurate nutrition information. (Sources of Nutrition Information)
23. Be aware of local and web-based sources of current nutrition knowledge and research. (Sources of Nutrition Information)

Topic 1.

Chapter 1. Overview of Nutrition

Aim: To introduce students to the concepts of food and nutrients and the science of nutrition, including food choices, nutrient intake levels and the advancement of nutrition knowledge.

OBJECTIVES

Definitions:

Nutrition	the science of foods and the nutrients they contain, and their actions within the body (including ingestion, digestion, absorption, transport, metabolism, and excretion). It also includes the social, economic, cultural, and psychological implications of food and eating.
Food	Products derived from plants or animals that can be consumed to yield energy and nutrients for the maintenance of life and growth and repair of tissues.
Diet	the food and beverages a person eats and drinks.

1. Outline main social and behavioural forces influencing food choices. (Food Choices)

1. Personal preference for flavours
2. Genetics
3. Habit
4. Ethnic heritage or tradition, cultural or religious beliefs and traditions.
5. Social interactions, such as special events, customs and holidays where food is involved.
6. Food availability, convenience and economy
7. Personal values, related to ethical treatment of animals and the planet
8. Positive and negative associations
9. Emotional comfort
10. Nutrition and health benefits of food, such as whole, modified or fortified foods.

There are positive & negative associations with food choice, such as:

- Eating for emotional comfort
- Body weight and image
- Political views or environmental concerns
- Nutrition and health benefits of food, such as whole, modified or fortified foods.

A healthy diet is essential for a healthy body and it's important to consider nutritional properties of food when making choices.

- Unfortunately, for many people this is the least considered aspect of food choice.
- For others, their concept of healthy foods is misdirected by poor media including social media.

2. List the six classes of nutrients, describing their chemical make-up. (Nutrient Classes)

Definition	
Nutrients	Chemical substances obtained from food and used in the body to provide energy, structural materials and regulating agents to support growth, maintenance and repair of the body's tissues. Nutrients may also reduce risks of some diseases.

Nutrients in Food and the Body

- Our bodies can derive all the energy, structural materials and regulating agents we need from the foods we eat.
- Chemical analysis of the body show that it is made of the materials similar to those found in food.
- We are a collection of atoms, molecules, cells, tissues and organs.
- Cells die (either lost or broken down), new cells are created.
 - Oldest red blood cell ~ 120 days, Intestinal lining cells are renewed every 3 days.
 - Skin is totally replaced every 7 years.
- It is the nutrients found in food that replenishes bodily requirements for structure and energy.
- Food also contains non-nutrients such as contaminants and phytochemicals that don't have a known essential function or contain energy.

