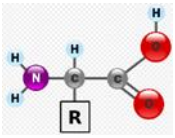
Renewed Nutrition Subject Outline for 2021

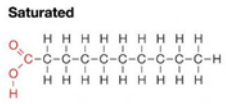
Stage 2 nutritional key values and components

- Nutrient energy values kJ per gram
  - Protein and carbohydrates 17 kJ per gram
  - Lipids 37 kJ per gram
  - Alcohol 29 kJ per gram
  - Water 0 kJ per gram
- Recommended proportions as a % of the total from macronutrients
  - Protein 12-15%
  - Lipids 20-35%
    - Sat Fat <10%
  - Carbohydrate (CHO) 45-65%
- Nutrient reference values
  - Recommended Daily Intake (RDI)
  - Estimated Average Requirement (EAR)
  - Adequate Intake (AI)
  - Tolerable Upper Intake Level (UL)
- Organs involved in digestion
  - Mouth, oesophagus, stomach, liver, gall bladder, pancreas, small intestines, large intestine
- Digestion of macronutrients and their enzymes
  - Salivary Amylase, pepsin, trypsin, pancreatic amylase, lipase
- EER
  - Females: 0.9 x 24(hrs) x weight (kg) x 4.18 = BMR (kJ)
  - Males: 1.0 x 24 (hrs) x weight (kg) x 4.18 = BMR (kJ)
  - BMR+ thermic effect (10% of energy intake) + exercise)= EEE
- Protein-The general structure of amino acids

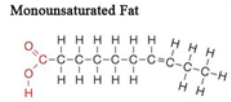


- Lipids- The structure, sources and effects on blood cholesterol (LDL, HDL) of the following fatty acids:

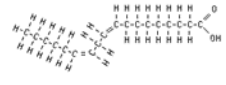
Saturated vs unsaturated



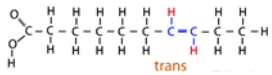
Monounsaturated

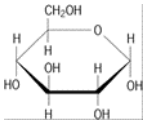


Polyunsaturated



trans-fatty acids





glucose molecule

- function and food sources for the particular vitamins listed

  Fat soluble (all antioxidants)

  - Vitamin A (retinol)- eye sight
  - Vitamin D- bone metabolism
  - Vitamin E
  - Vitamin K – co-angulate

  Water soluble

  - B vitamin group;(energy metabolism
  - Vitamin B1 (Thiamin),
  - Vitamin B2 (Riboflavin),
  - Vitamin B3 (Niacin),
  - Vitamin B12,
  - Folate, Folic Acid (Vit. B9) – neural tube defects)
  - Vitamin C- scurvy

- Nutrition through life cycle- The changes of specific nutritional needs and energy requirements for the - different stages of the life cycle: e.g.
  - preconception, pregnancy, and lactation
  - infants and pre-school children
    - toddlers 1-2yrs and 2-3 yrs
  - school-aged children and teenagers
    - children 4-8yrs, 9-11 yrs
    - adolescent 12-18 yrs
  - adults (19 -50 yrs, 51-70yrs)
  - older adults(70 yrs+)
  - frail elderly

- Food sociology is understanding factors impacting on food selection by individuals.
  - physiological factors of appetite, hunger and satiety can affect the health of individual
  - sensory reactions to food effect food selection. These include;
    - sight- appearance, colour, shape, turgor
    - taste- flavour
    - smell – aroma
    - experiences- food intolerances or allergies
  - psychological influences effect food selection. These include;
    - values
    - beliefs
    - attitudes and experiences
    - habits
    - emotions
  - social influences effect food selection
    - Culture and tradition
    - Lifestyle and work pattern

- Chemical and functional changes in macronutrients during food preparation.
  - CHO –Gelatinization, Crystallisation and nucleation, caramelisation, dextrinization, gelification, leavening,
  - Lipids/ fats- emulsions, viscosity
  - Protein - foam formation, coagulation