FNH 452 MINERALS IN HUMAN NUTRITION

52 Hr (13× 4 units)

Course outcome:

- Describe the importance of minerals in human metabolisms and its contribution.
- Classify the minerals depending on its requirement in human body.
- Write down the chemical properties of major minerals.
- Write down the source, digestion, absorption and functions of major, minor and trace minerals.
- Describe the effect of dietary deficiency and its complications of each mineral.
- Describe how certain minerals produces toxicity and interact with some drugs.

Unit I: Macro minerals - I: Calcium, phosphorus: Calcium in skeleton and other tissues, bone mass, calcium absorption and utilization, calcium balance, requirement, sources, deficiency and toxicity. Phosphorus: concentration in the body, calcium and phosphorus ratio, absorption and utilization, sources, deficiency and toxicity

Unit II: Macro minerals - II: Sodium, Potassium, Magnesium and Sulphur - Metabolism and electrolyte balance, absorption, utilization, role in human nutrition, sources, deficiency, toxicity.

Unit III: Micro minerals: Iron, iodine, zinc, copper, cobalt; metabolism, role in human nutrition, sources, deficiency, toxicity.

Unit IV: Ultra trace minerals: Cobalt, Nickel, Cadmium. Manganese, Molybdenum, Chlorine, Selenium, Fluorine: Metabolism, role in human nutrition, sources, deficiency and toxicity. Minerals and drug interaction.

REFERENCES

- Srilakshmi B. Nutrition Science,
- Gibney M J, Elia M, Ljungqvist & Dowsett J., 2005. Clinical Nutrition. The nutrition Society Textbook Series, Blackwell publishing Company
- Williams, S R., 2001, Basic Nutrition and Diet Therapy 11th ed. Times Mirror Mosby College Publishing
- Mahan, L K., Escott Stump S. 2008. Krause's Food and Nutrition Therapy 12th ed., Saunders Elsevier