

SEMESTER III
NUTRITION AND DIETETICS

CLINICAL NUTRITION AND DIETETICS – 1

Code: MSND 301

Total marks: 100

Hours: 52

Theory: 70

Instructions/week: 04

IA: 30

Objectives:

To enable students to:

- Understand the modifications in nutrients and dietary requirements for therapeutic conditions.
- To gain knowledge and provide appropriate nutritional care for treatment of various diseases.

UNIT I

10 hrs

- Assessment of patient needs based on interpretation of patient data – clinical, biochemical and personal.
- Definition and history of dietetics, dietetics in modern health care management, Types and role of a dietitian and team approach in patient care.

UNIT II 12 hrs

- Febrile conditions – metabolic changes during fever, short duration – Typhoid and Influenza, intermittent duration – Malaria, long term – Tuberculosis, pathophysiology and Dietary Management.
- Drug and nutrient interaction – Types of drugs-antibiotics, analgesics, antihistamines.
- Effect of drugs on food intake
- Effect of drugs on metabolism, digestion and absorption, it's effect on nutritional status, Drug dosage and efficacy.
- Effect of food during drug therapy

UNIT III

10 hrs

- Hepatic disorders (Viral hepatitis – types – A, B, C), Fatty liver – types, cirrhosis, hepatic coma, Wilson's disease- etiology, pathophysiology, symptoms, diagnosis, dietary management.
- Gall bladder- functions and components of bile, cholecystitis, cholelithiasis- etiology, pathophysiology, symptoms, diagnosis and dietary management.

UNIT IV

10 hrs

- Energy Imbalance – obesity – Definition, components of body weight, types, etiology, assessment, regulation of body weight, complications. Underweight – Definition, etiology, assessment, health risk, dietary management and complications. Importance of weight management, exercise, behavior modification, functional consequences of energy deficiency.
- Food intolerance and allergy – Food allergens, test for allergy – skin test, elimination test, dietary management

UNIT V

10 hrs

- Disease of Pancreas (acute pancreatitis, chronic pancreatitis)– etiology, pathophysiology, symptoms, diagnosis, and dietary management.
- Diabetes Mellitus – types, metabolic changes, etiology, symptoms, diagnosis, complications, treatment, exercise, drugs and insulin, dietary management – role of fibre, glycemic index, artificial sweeteners and sugars substitutes.
- COPD, PCOD – etiology, patho physiology, symptoms and Medical Nutrition Therapy

NUTRITION AND DIETETICS
CLINICAL NUTRITION AND DIETETICS – 1

Code: MSND 301 P
No. of Weeks: 13
Instructions/week: 04

Total marks: 50
Practicals: 35
IA: 15

UNIT I

Planning and preparation of low calorie and high fibre diet for Obesity and high calorie high protein diet for underweight

UNIT II

Planning and preparation of diet for viral hepatitis

UNIT III

Planning and preparation of lactose and gluten free recipes

UNIT IV

Case studies and presentation on COPD/PCOD

UNIT V

Planning and preparation of diet for Diabetes

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REFERENCES:

1. Modern Nutrition in health and Disease, 10th edition by Maurice E.Shils
2. Alfred H.Katz, Prevention and Health, the Haworth, press, New York 1999
3. Krause Food and Nutrition Care Process,15thedition
4. Sareen S, 2005 Advanced Nutrition and human metabolism, 7th edition, 2016, USAIAPEN,BAPEN webseries
5. International Life Science Institute Present Knowledge in Nutrition- latest edition 2012
6. Achayya,K.T.,(2001) A historical Dictionary of Indian Foods, Oxford Publishing Co
7. Antia, F.P. and Philip A. Clinical Dietetics and Nutrition, 4th Ed,2002.
8. Bamji, M.S. Rao, P.N. and Reddy (2019,) Text book of Human Nutrition,4th edition, Oxford and IBH publishing housing.
9. Garrow, J.S. and James WPT. Human Nutrition and Dietetics, 10thEd.
10. Williams, S.R., Essentials of Nutrition and Diet Therapy, 12th Ed. Jones Mirror College Publishing, 2018.
11. Sharon Rady Rolfs and Ellie Whitley,(2018), Understanding Normal and Clinical Nutrition, 11 th edition,2018.

SEMESTER III
NUTRITION AND DIETETICS
NUTRITION IN FITNESS AND SPORTS

Code: MSND 302
Hours: 52
Instructions/week: 04

Total marks: 100
Theory: 70
IA: 30

OBJECTIVES

- To understand special nutritional requirements for physical fitness and sports
- To understand the role of physical activity – management of health.

UNIT I

10 hrs

- Introduction to physical fitness – definition and components of physical fitness, body composition changes through lifecycle, types of exercises, holistic approach in the management of fitness and health- diet, exercise, yoga and meditation.

UNIT II

10 hrs

- Nutrition, exercise, physical fitness and health – their interrelationship, factors affecting physical work capacity and work efficiency. Mobilization of fuel stores during exercise. Importance of CHO loads, shifts in CHO and fat metabolism.

UNIT III

10 hrs

- Physiological changes during physical activity– CVS, respiratory system, muscular system. Types of exercise and its impact on fitness, muscle fatigue – prevention and recovery. Effect of training on heart and lung performance. Exercise guidelines in diabetes, osteoporosis and hypertension. Fatigue during exercise and its management.

UNIT IV

10 hrs

- Nutritional requirements for sports person. Importance of micronutrients for exercise. Exercise induced oxidative stress and role of antioxidants.
- Fluid balance in sports – importance and prevention of dehydration.
- Sports drink – hypo, iso and hypertonic drink for hydration/energy, recovery drink.
- Macronutrient supplements- Pure Protein (Caesein, egg albumin, soyaprotein,protein bars)

UNIT V

12 hrs

- Sport specific requirement of nutrients – pregame and postgame regime, special nutrients for female athletes.
- Chronic dieting and eating disorders, sports anemia, Role of nutrition in stress, fracture and injury. Nutrition education to athletes and coach.

NUTRITION AND DIETETICS
NUTRITION IN FITNESS AND SPORTS
PRACTICALS

Code: HSND 402 P
No. of Weeks: 13
Instructions/week: 4

Total marks: 50
Practicals: 35
IA : 15

UNIT I

Body composition analysis for sports personnel

UNIT II

Market Survey on nutritional supplements for sports personnel

UNIT III

Endurance test for athletes

Preparation of sports beverage

UNIT IV

Plan a counseling session for sports person and present a case study

UNIT V

Plan pre and post game meal/recipes

REFERENCES

1. Bamji S.M., Rao NP and Reddy V. 2019, Text book of Human Nutrition, Oxford and IBH publishing C. New Delhi, 4th edition.
2. Fink H.H., Mikesky E.A and Burgoon A.L. 2015, Practical Applications in sports Nutrition, 4th edition, rd. Jones and Barlett Learning. USA.
3. Burke Louse and Deakin Vicky (2012), 4th Edition, Clinical sports Nutrition.
4. Ira Wolinsky (Ed) (1998): Nutrition in Exercise and Spots, 3rd Edition, CRC Press.
5. Mahan, L.K & Ecott- Stump, S. (2010): Krause's Food, Nutrition and Diet Therapy
6. Shils, M.E., Olson, J.A., Shike, N. and Ross, A.C (Ed) (2014): Modern Nutrition in Health & Disease, 9th Edition, Williams & Wilkins.
7. Mc Ardle, W. Katch, F. and Katch, V. (2014) Exercise Physiology. Nutrition and Human Performance, Williams and Wilkins, Philadelphia.

8. Gibney J.M. Macdonald A.I and Roche M.H.2003. Nutrition and Metabolism. Blackwell publishing.
9. Nutrition for Health, Fitness and Sports, Eight edition, by Melvin Williams,2012, McGraw-Hill.
10. Dan Bernard,O.T, (2011), Advanced Sports Nutrition, 2nd edition, Paper back.

SEMESTER III
NUTRITION AND DIETETICS

NUTRITION AND DIET COUNSELLING

Code: MSND	303	Total marks: 100
Hours:	52	Theory: 70
Instructions/week: 04		IA: 30

OBJECTIVES:

- To familiarize students with the principles and methods of counseling
- To use appropriate methods for counseling

UNIT I

10 hrs

- Diet Counseling – Definition, meaning, significance and types
- Goals of counseling – individual, group and family
- Counseling-materials required for counseling – models, charts, posters, AV aids, communication process in counseling, problems in counseling.
- Role of dietitian-roles and responsibilities, dietary diagnoses and dietary prescription.
- Nutrition Counseling, steps and procedures, team work, nutrition care plan.

UNIT II

10 hrs

- Nutritional Assessment: Anthropometric, Biochemical, Clinical and Dietary Assessment, Counseling, documentation, SOAP (Subjective, Objective, Assessment, Planning), MUST (Malnutrition Universal Screening Tool), MNT (Medical Nutrition Therapy),

- Introduction to health psychology, factors affecting health behavior (social, cognition models of health, Personality factors, Interpersonal communication, Group dynamics).

UNIT III

10 hrs

- Diet counseling at hospital and community level, role of counseling in hospitals, counseling in a community, organizing health camps and patient feedback at hospitals and at community level.

- Assessment Component- methods of interview: verbal and non-verbal techniques, counseling models – data analysis (dietary, biological and environment).

UNIT IV

10 hrs

- Nature and goals of counseling, principles of counseling, characteristic of a good counselor, ethical principles of counseling, planning and designing of counseling plans, classification, objectives, client care plan and co-ordination, evaluation component – measuring the success of performance of client and evaluating the counseling process.

UNIT V

12 hrs

- Principles of behavioral change, health promotion and health education strategies. Counseling skills, listening skills, responding, intervention, rapport building, creating an effective counselor environment.

- Patient education and counseling for diseases, mother and child care, adolescence, sports persons, children with disabilities, patient followup/home visits.

NUTRITION AND DIET COUNSELING

PRACTICALS

Code: MSND303 P
No. of weeks: 13
Instructions/week: 04

Total marks: 50
Practicals: 35
IA: 15

UNIT I

Planning and preparation of audiovisual aids for counselling sessions on life style diseases.

UNIT II

To conduct diet counselling sessions for lower social economic group

UNIT III

Conduct diet and nutrition counselling for obese and underweight clients

UNIT IV

Plan counselling session for health promotion

UNIT V

A visit to a multi-specialty dietary department

REFERENCES

1. Gibson, R.L., Mitchell, M.H, (2008), Introduction to counselling and guidance (6 Ed)
2. Gelso, C.J., Fretz, B.R, (2001), Counselling Psychology, Bangalore, Prism Books Pvt Ltd.
3. Sharma, T.C., (2022), Modern Methods of Guidance and Counseling, New Delhi, sarup & sons.
4. Beena and Parweshwaran- Invitation to Psychology, Neel Kamal Publications.
5. Mahan, L.K & Ecott- Stump, S., (2000): Krause's Food, Nutrition and Diet Therapy, 10th Edition.
6. Shils, M.E., Olson, J.A., Shike, N. and Ross, A.C (Ed) (1999): Modern Nutrition in Health & Disease, 9th Edition, Williams & Wilkins.

7. Bamji.,S.M.,Rao,N. P.,Reddy,V.,(2019),Text book of Human Nutrition, Oxford and IBH publishing C. New Delhi.
8. Kathleen Bauer,(2020),Nutrition counselling and Education Skill Development,4th Edition.

III SEMESTER
NUTRITION AND DIETETICS
OPEN ELECTIVE
NUTRITION FOR HEALTHY LIFESTYLE

Code: MSND 304
Hours: 52
Instructions/week: 04

Total marks: 100
Theory: 70
IA: 30

OBJECTIVES

1. To enable the students to understand the role of nutrition in management of health
2. Understand the role of physical activity in management of health.

UNIT I

10 hrs

- Introduction to Nutrition
- Define - Nutrition, Malnutrition and Health
- Functions of food, food groups and balanced diet and recommended dietary allowances,
- Principles and steps in meal planning.

UNIT II

10 hrs

- Methods of cooking - boiling, steaming, pressure cooking, frying, baking and solar cooking -advantages and disadvantages
- Fortification- Definition, commonly fortified foods.

UNIT III

12 hrs

- Macronutrients (Carbohydrates, Protein and Fat)-functions, sources and deficiency.
- Micronutrients (vitamins and Minerals)

- Fat soluble vitamins, water soluble vitamins, Iron, folic acid and calcium - functions, sources and deficiency.

UNIT IV

10 hrs

- Nutrition through Lifecycle
- Nutritional Requirements and dietary guidelines during adulthood, pregnancy, lactation (Breast feeding and bottle feeding), infancy (complementary feeding), preschool, adolescence and old age.

UNIT V

10 hrs

- Role of physical activity, importance of diet and fluids during exercise.
- Definition -nutraceuticals, prebiotics, probiotics and dietary supplements.
- Role of functional foods in health

REFERENCES

1. Srilakshmi, B (2003), Nutrition science, New age International Pvt. Ltd.
2. Summerfield (Liane, M), Nutrition, Exercise and Behaviour: An integrated approach to weight management.
3. Food, Nutrition and Diet Therapy (2003)– Kathleen Mahan & Krause, Sylvia Escott Stump.
4. Text Book of Human Nutrition – Mahtab S. Bamji, N Prahlad Rao, Vinodini Reddy, 2nd edition, Oxford & IBH Publishing Co. Pvt. Ltd.
5. Perspectives in Nutrition – Gordon M. Wardlaw, Margaret Kessel, 5th edition, Mc Graw Hill Publication.
6. Human Nutrition – Geissler & Powers, 11th edition, Elsevier Publications.
7. Normal and Therapeutic Nutrition - Robinson & Lawler, 17th edition, Mac Millan Publishers.
8. Mary, K. Schmidl and Theodore, P. Labuza (2000), Essentials of Functional Foods, Culinary and hospitality industry publication services
9. Israel Goldberg, (2001), Functional foods, pharma foods, Nutraceuticals, Culinary and hospitality industry publication services.

III SEMESTER
NUTRITION AND DIETETICS
HOSPITAL INTERNSHIP –PRACTICAL

Code: MSND 305 P

Total marks: 50

1. Internship in hospital for four weeks
2. Students to document five case studies during the period of internship
3. A report on the functioning of the dietary department
4. Counseling for patients – report
5. Report