Maharashtra University of Health Sciences,

Nashik

SYLLABUS

"Certificate Course in Clinical Nutrition"

A) Title: Certificate Course in "Clinical Nutrition "

B) **Duration of Course: Six months.**

C) Intake of students : As per the University norms

D) Course fees : As prescribed by the University from time to time

E) Days & Time – Friday or Saturday 2-5 pm or any two days of the week

F) Course content - The course will comprise of the following teaching sessions: Lectures, tutorials, case studies & case discussions, lab visits, seminars, quiz contests.

G) Aims, Objectives and Desirability of the course:

Introduction:

Malnutrition is a silent life threatening emergency. There is urgent necessity of instituting public health interventions for tackling malnutrition. Nutrition is very important component of every medical branch right from maternal , fetal to geriatrics. . Malnutrition among children below five years of age remains a major impediment to optimal human development in India. In the current Indian population of 1100 million, there would be about 132 million under five children (~12% of population), of which 6.4% or roughly 8 million can be assumed to be suffering from malnutrition. In most of medical and other health science specialties nutrition is not given much importance. It is very important to sensitize every health professionals about new concepts of malnutrition like type I and II nutrients ,obesity and other problems related to improper nutrition. This certificate course is an effort to bridge the gap of nutrition in health professionals education. This course is intended primarily for fellows in medical specialties Pediatrics,Gynaecology,Medicine, Preventive & Social Medicine and oncology, and nursing who need knowledge in basic and clinical Nutrition as it applies to disease pathogenesis and patient care. This course integrates basic and clinical nutritional principles as well as outlines the diagnosis and evaluation of nutritional disorders .This will require basic knowledge of pathophysiology, biochemical and clinical knowledge relevant to the most common nutritional diseases affecting different systems. The participants will be given a thorough knowledge of basic nutrition and nutritional

diseases which will help them in suspecting nutritional disorder. They can plan special diet in malnutrition, Obesity, cancer and HIV.

Aims and objectives:

At the end of the course, the participant should be able to do the following:

- Recognize criteria for hospital admission of malnourished children
- Perform initial assessment of the severely malnourished child
- Provide general treatment for malnutrition Treat associated conditions
- Understand discharge and follow-up guidelines of the severely malnourished child
- List the basic nutrients. Differentiate the structure of the micronutrients and macronutrients.
- Identify the physiological pathways and functions of the basic nutrients in the body.
- Select foods according to their basic nutrient content and to their order of usefulness to the human body.
- Identify the relative amounts of nutrients required by individuals in different life stages by using the RDA table and the dietary goals.
- Identify problems related to dietary practices in hospital and community.
- To know about tribal health and malnutrition.
- Use the food composition table to determine the nutrient content of foods.
- Select appropriate processing and handling practices in order to retain nutrient content of foods. Recognize interrelationships among nutrients.
- Assess nutritional status by correlating anthropometry and food/activity records with standards.

Details of required teaching and infrastructural facilities and details of department conducting the course:

Teaching staff:

A. Details of required teaching and infrastructural facilities

Teaching staff:

- **In-house staff in the Department of Medical Education & Technology:**

Designation	Qualifications
Professor	MD (Pediatrics)
Asso.Prof.	MD (PSM)
Asst.Prof.	MD (Pediatrics)
Asst.Prof.	PhD (Health Science)
Asst.Prof.	M.Sc. (Biochemistry)
Asst.Prof.	M.Sc. (Med. Biochemistry)

Visiting faculties: Many other experts as visiting/ guest faculty from various medical colleges and research institutions to be involved.

- **Infrastructural facilities:**

  a. **Required:** Lecture halls, Over head projector, LCD system, Audio system

  b. Required: Laboratory equipment and glassware

- **Furniture:** Adequate furniture is required for conduct of course

- **Hospital and library facility for conduct of the course:**

Clinical and laboratory material are required

E) Academic calendar:

From January to June, and July to December

F) Eligibility and syllabus proposed:

Bachelors or Masters Degree from Medicine (Allopathy and/or Interpathy), Nursing , physiotherapy, dietitics, Public health professionals.

Selection Procedure

The selection will be made on the basis of an written test/interview. The final list of candidates selected to the program will be announced after conducting all the interviews.

Course structure:

There will be case discussions, lab visits, group discussions and demonstrations.

1. Human Anatomy, Physiology & Biochemistry
2. Fundamentals of Nutrition
3. Epidemiology Principles
4. Scientific Principles of research
5. Normal Clinical Nutrition
6. Nutrition & Anthropometry
7. Nutritional Surviellance
8. Nutrition Policies & Programmes
9. Ditetics & Therapeutic Aspects of Clincal Nutrition
10. Malnutrition & Obesity
11. Nutrigenetics
12. Nutrition in Special Conditions
13. Project
14. Food Security & Sustainability
15. Health Promotion & Nutritional Edeucation
16. Food Safety in Practice
17. Research Methodology

Proposed Text books:

Aykroyd, WR. Gopalan C and S.C. Balasubramanian the nutritive values of Indian foods & planning of satisfactory diets 1971 ICMR New Delhi.

A.T., Telford. CM. Saurey, J.M. 1975 Child Psychology, Prentice - Hall India.

Anderson L & others "Nutrition in Health & disease" 1982 17th ed. J.B. Lippincott Co. Philadelphia.

Biscof, L.J. 1976, Adult Psychology, Harper and Row Publishers.

Bogert, J.G.V, Briggs, DR Calloway Nutrition and physical fitnes, 11th edition - 1985 - W.B. Saunders Co., Philadelphia, London, Toranto.

C. Gopalan S.C. Balasubramanian S.V. Ramestri and Visweswara Rao Diet Atlas, 1971 ICMR New Delhi, India.

Conn E E and Stump P.K. - Outlines of Biochemistry - Wiley Eastern (P) Ltd. New Delhi, 1981.

David, M. Paize et. aI, Clinical, Nutritoij, 1988 C.V. Moshy Co. St. Louis.

Davidson & Passmore R & Brock J.B. Human Nutrition & dietetics 1976. The English Languages Book Society & Churchill Living stone.

Devadas R.P. and Jaya, N. (1984). Text Book or Child Development, Mc.Millan Co.

F.P. Antra Clinical nutrition & Dietetics 1973. Oxford University press, Delhi, London, New York.

G.A. Helen - Introductory Nutrition 1974; C.V. Mosby Company sant Louis.

Guthrie H.A. - Introductory Nutrition C.V. Mosby Co. St. Louis.

Guyton, A.C. Functions of the Human Body, W.B. Saunders Co., Philadelphia.

Hurlock E.B. (1972) Child development - Mc Graw - Hill Book Co.

Jelliffe. D.B. (1996) The Assessment of Nutritional status on the Community - WHO Monograph serioes - No. 53. Geneva.

K.M. King, F. Morley, R & Burgess, Nutrition for developing countries 1972, Oxford University Press, Delhi, London, New York.

Lehninger, Biochemistry, 2004, McMillan, 4th

M. Swaminathan "Principles of Nutrition and Dietectics", 1993, Bappeo 88, Mysore Road, Bangalore - 560 018.

M. Swaminathan, Essential of Nutrition Vol. I & II 1974, The Ganesy and company, Madras -17.

M.V. Krause & M.A. Mahan. Food Nutrition and Diet Therapy 1992. W.B. Saunders company, Philadelphia London, Toronto.

McLarea. D.S. (Ed.) 1983. Nutrition in the Community. John Wiley and sons.

Mudambi, S.R. & M.V. Rajagopal - "Fundamentals of Foods & Nutrition". 3rd ed. Wiley Eastern Ltd., New Delhi. 19.

Nikunas. J. 1976 Human Development. Mc. Graw - Hill book Co.

Recommended Dietary Intakes for Indians I.C.M.R. 1989.

Reh, Emma. 1976. Manual on Household Food Consumption Surveys. FAQ. Nutritional studies, No. 18. Rome.

Robinson, C.H. Lawles, M.R. Chenoweth. W.L. Garwick, A.E. Normal and Therapeutic Nutrition 1990. The Macmillan Company, New York.

Rogere Dorothy. 1972. The Psychology of Adolescence, Prentice - Hall Inc.

Shanti Ghosh (1977.) The feeding and care of infants and young children. Voluntary Health Association of India - New Delhi.

Shukla, P.K. (1982) Nutritional Problems of India - Prentice Hall of India Pvt. Ltd., New Delhi.

Stryer, Biochemistry, 2006, McMillan, 6th

Subramaniam, S. and Madhavan Kutty, K. 1971. The Text Book of Physiology, 1st ed., Orient Longman Ltd.

Sue Rodwell williams Nutrition and Diet therapy 1985. The C.V. Mosby Saint Louis.

Suriakanthi, A (1997) Child Development - An Introduction Kavilla Publishers

U. Satyanarayana, Biochemistry, 2006, Books Allied, 3rd

Vander, A.J, Sherman, J.H. and Luciano, D.S. Human Physiology - the Mechanisms of Body Functions, 2nd ed., TMH Pubiishing Co., Ltd.,

Wardlaw, G.M. INsel, P.H. - Perspectives in Nutrition (1990) Times Mirror / Mosby College Publishing Co. St. Louis, Toronto, Bostan.

Whitney E.N., Hamilton EN. & Roffes SR "Understanding Nutrition" 5th ed. West Pub. Co. New York.

William, S.R. - Nutrition and Diet Therapy (1985) 5th edition, Mosbey Co. St. Louis

Wilson, E.P. Fisher K.H. and Fuqua M.E. principles of Nutrition 1975. John Willey & Sons New York, London.

Worthington Roberts, Bonnie S. & others - "Nutrition in Pregnancy & Lactation" 3rd ed. Times Mirror / Mosby College, St. Louis, 1985.

Journals

1. Journal of American Dietetic Association, American Dietetic Association, U.S.A.India
2. Journal of Nutrition and Dietetics - Avinashi-lingam. Institute for Home Science and High Education Coimbatore.
3. Journal of American Dietetic Association, Americal Dietetic Association, U.S.A.
4. India Journal of Nutrition and Dietetics - Avinashi-lingam. Institute for Home Science and High Education Coimbatore.

Course Structure:

Weekend teaching Fridays or Saturdays any two days of the week

Evaluation:

Internal assessment – 50 marks (conducted every Two monthly)

Theory exam – 75 marks case study, PBLs

OSCE – 75 marks (* Minimum passing 50% in each head).

Total 200 marks.