

## INDEX FOR PROGRAM AND COURSE OUTCOME

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### PROGRAM SPECIFIC OUTCOMES- M.Sc. Specialized Dietetics

- To enable students, understand the physiology, clinical biochemistry, metabolic changes and nutritional implications of the diseased state.
- To develop and update the practical management skill of nutritionist and provide relevant insights into contemporary development in clinical nutrition.
- To provide intensive hands on training in clinical nutrition, to be a competent member of specialized nutrition support team.
- To integrate alternate therapies like yoga, Ayurveda in the disease care process to achieve a holistic approach in patient care

## SEMSETER 1- FOUNDATION MODULE

Course Code: MSD 101 PHYSIOLOGY IN HEALTH & DISEASE (Theory)

Semester: I

Credits: 4

On completion of the course the students will be able to –

1. To help students to identify the principal systems in the human body.
2. To understand the pathogenesis and etiology involved in various diseases

Course Code: MSD 102 ADVANCED CLINICAL BIOCHEMISTRY (Theory)

Semester: I

Credits: 4

On completion of the course the students will be able to –

1. To understand the significant clinical, physiological and biochemical changes in diseases.
2. To Understand Normal Biochemistry, Disease Pathogenesis, Etiology, Clinical Signs & Symptoms, Diagnostic Tests, Complications Of The Healthy & diseased Conditions

Course Code: MSD 103 PRINCIPLES IN PREVENTIVE & THERAPEUTIC DIETETICS (Theory)

Semester: I

Credits: 4

On completion of the course the students will be able to –

1. To understand the physiologic role of specific nutrient & non nutrient components of food in relation to various organ systems.
2. To develop an understanding of disease management process through dietary intervention.
3. To develop an understanding of disease management process through dietary intervention.
4. To learn the application of therapeutic principles in clinical settings.

Course Code: MSD 104 PRINCIPLES IN PREVENTIVE & THERAPEUTIC DIETETICS (Practical)

Semester: I

Credits: 4

On completion of the course the students will be able to –

1. To understand the physiologic role of specific nutrient & non nutrient components of food in relation to various organ systems.
2. To develop an understanding of disease management process through dietary intervention.
3. To develop an understanding of disease management process through dietary intervention.
4. To learn the application of therapeutic principles in clinical settings.

Course Code: MSD 105 ENTERAL AND PARENTERAL NUTRITION (PRACTICAL)

Semester: I

Credits: 4

On completion of the course the students will be able to –

1. To understand the principles of enteral nutrition and parenteral feeding.
2. To understand and apply steps in decision making, application techniques, monitoring, & documentation in enteral and parenteral feeding.
3. To update on the recent trends in nutrition support for critical care.
4. To understand the principles of enteral nutrition.
5. To understand and apply steps in decision making, application techniques, monitoring, & documentation in enteral feeding.
6. To update on the recent trends in nutrition support for critical care

Course Code: MSD 106 NUTRITIONAL CARE AND ASSESSMENT (THEORY)

Semester: I

Credits: 4

On completion of the course the students will be able to –

1. To develop within the students an understanding & appreciation of the need for nutrition assessment.
2. To enable students assess the nutritional status in a clinical setting and familiarize students with different approaches in clinical nutrition assessment
3. To monitor changes in the nutritional status and to evaluate impact of nutrition rehabilitation.
4. To orient the students to research methodology with a focus on tools in nutrition research

## SEMSETER 2- SPECIALIZATION MODULE

Course Code: MSD 205 RESEARCH METHODOLOGY AND BIOSTATISTICS (Theory)

Semester: II

Credits: 4

On completion of the course the students will be able to –

1. To develop within the students an understanding & appreciation of the need for nutrition assessment.
2. To enable students assess the nutritional status in a clinical setting and familiarize students with different approaches in clinical nutrition assessment
3. To monitor changes in the nutritional status and to evaluate impact of nutrition rehabilitation.
4. To orient the students to research methodology with a focus on tools in nutrition research.

Course Code: MSD 206 Advanced Communication Skills in Nutritional Practice (Practical)

Semester: II

Credits: 4

On completion of the course the students will be able to –

1. Use the techniques and skills of communication in counseling
2. Bring about a behavioral change in patients
3. Analyze their role as a counselor.

## DIABETES AND CARDIAC NUTRITION

<p style="text-align: center;">Course Code: MSD 201 ADVANCED PHYSIOLOGY &amp; METABOLIC NUTRITION IN DIABETES &amp; CARDIAC DISEASE (THEORY)</p> <p style="text-align: center;">Semester: II Credits: 4</p> <p>On completion of the course the students will be able to –</p> <ol style="list-style-type: none"> <li>1. To understand the organ systems involved in normal metabolism and maintaining homeostasis.</li> <li>2. To comprehend the pathophysiology and metabolic alterations of different disorders of the specific system.</li> <li>3. To Interpret and correlate the alterations in the disease process for patient care and management.</li> </ol>	<p style="text-align: center;">Course Code: MSD 202 MEDICAL NUTRITION THERAPY IN DIABETES &amp; CARDIAC DISEASE (THEORY)</p> <p style="text-align: center;">Semester: II Credits: 4</p> <p>On completion of the course the students will be able to –</p> <ol style="list-style-type: none"> <li>1. At the end of this module, the students should be</li> <li>2. Able to describe the role of macronutrients in management of specific diseases.</li> <li>3. Able to understand the significance of disease specific micronutrients in patient management.</li> <li>4. Be updated with the recent trends and evidence based nutrition intervention in management of the disease.</li> <li>5. Having knowledge about functional foods and health beneficial dietary supplements in patient care.</li> </ol>
<p style="text-align: center;">Course Code: MSD 203 MEDICAL NUTRITION THERAPY PRACTICE IN DIABETES &amp; CARDIAC DISEASE (PRACTICAL)</p> <p style="text-align: center;">Semester: II Credits: 4</p> <p>On completion of the course the students will be able to –</p> <ol style="list-style-type: none"> <li>1. At the end of this module students should</li> <li>2. Understand the disease management process through dietary intervention.</li> <li>3. Apply the therapeutic principles of diet planning in a clinical setting.</li> <li>4. Be able to assess the nutritional requirements in different stages of the disease.</li> <li>5. Be able to plan diets for patients with various types, complications and co morbidities of diseases</li> </ol>	<p style="text-align: center;">Course Code: MSD 204 COMPREHENSIVE PATIENT MANAGEMENT IN DIABETES &amp; CARDIAC DISEASE (PRACTICAL)</p> <p style="text-align: center;">Semester: II Credits: 4</p> <p>On completion of the course the students will be able to –</p> <ol style="list-style-type: none"> <li>1. Provide practical training in managing patients in a clinical setting.</li> <li>2. Identify individuals at high risk for developing nutritional deficiency.</li> <li>3. Learn to rehabilitate the patients</li> <li>4. Develop educational material for patient education.</li> <li>5. Identify and organize support groups in patient care</li> </ol>



	<p>patients in a clinical setting.</p> <ol style="list-style-type: none"> <li>7. Identify individuals at high risk for developing nutritional deficiency.</li> <li>8. Learn to rehabilitate the patients</li> <li>9. Develop educational material for patient education.</li> <li>10. Identify and organize support groups in patient care</li> </ol>
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**PEDIATRIC NUTRITION**

<p>Course Code: Advanced Physiology &amp; Metabolic Nutrition in Pediatrics (THEORY)</p> <p>Semester:II Credits: 4</p> <p>On completion of the course the students will be able to –</p> <ol style="list-style-type: none"> <li>1. To understand the organ systems involved in normal metabolism and maintaining homeostasis.</li> <li>2. To comprehend the pathophysiology and metabolic alterations of different disorders of the specific system.</li> <li>3. To interpret and correlate the alterations in the disease process for patient care and management</li> </ol>	<p>Course Code: MEDICAL NUTRITION THERAPY IN PEDIATRICS (Theory )</p> <p>Semester:II Credits: 4</p> <p>On completion of the course the students will be able to –</p> <ol style="list-style-type: none"> <li>1. To be able to describe the role of macronutrients in management of specific diseases.</li> <li>2. To be able to understand the significance of disease specific micronutrients in patient management</li> <li>3. To be updated with the recent trends and evidence based nutrition intervention in management of the disease.</li> <li>4. To have knowledge about functional foods and health beneficial dietary supplements in patient care.</li> <li>5. To be able to plan diets for patients with various types, complications and co morbidities of diseases.</li> </ol>
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<p>Course Code: MEDICAL NUTRITION THERAPY IN PEDIATRICS (Practical)</p> <p>Semester:II Credits: 4</p> <p>On completion of the course the students will be able to –</p> <ol style="list-style-type: none"> <li>1. To be able to describe the role of macronutrients in management of specific diseases.</li> <li>2. To be able to understand the significance of disease specific micronutrients in patient management</li> <li>3. To be updated with the recent trends and evidence based nutrition intervention in management of the disease.</li> <li>4. To have knowledge about functional foods and health beneficial dietary supplements in patient care.</li> <li>5. To be able to plan diets for patients with various types, complications and co morbidities of diseases.</li> </ol>	<p>Course Code: COMPREHENSIVE PATIENT MANAGEMENT IN PEDIATRIC DISEASES (PRACTICAL)</p> <p>Semester:II Credits: 4</p> <p>On completion of the course the students will be able to –</p> <ol style="list-style-type: none"> <li>1. Understand the principles of nutrition care process.</li> <li>2. Learn the methods of carrying out routine diagnostic evaluations</li> <li>3. Comprehend and interpret the various investigations performed</li> <li>4. Have basic understanding of pharmaco therapy used in disease management.</li> <li>5. Be sensitized with the concept of a multidisciplinary approach to patient management.</li> <li>6. Provide practical training in managing patients in a clinical setting.</li> <li>7. Identify individuals at high risk for developing nutritional deficiency.</li> <li>8. Learn to rehabilitate the patient</li> <li>9. Develop educational material for patient education.</li> <li>10. Identify and organize support groups in patient care</li> </ol>
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### SEMSETER 3- SUPER SPECIALIZATION MODULE

<p>Course Code: MSD 301 Public Health Nutrition &amp; Epidemiology (Theory)</p>	
<p>Semester: III</p>	<p>Credits: 4</p>
<p>On completion of the course the students will be able to –</p>	
<ol style="list-style-type: none"> <li>1.</li> <li>2.</li> <li>3.</li> </ol>	<p>Understand the basic concepts of nutrition epidemiology</p> <p>Gain understanding of national nutrition policies and global health programs</p> <p>Explain current and emerging nutrition trends and their implications for public health</p>



Course Code: MSD 305 Nutraceuticals in Health and Disease (Theory)

Semester: III

Credits: 4

On completion of the course the students will be able to –

1. Understand the concept, evolution and scope of functional foods and nutraceuticals
2. Apply the concept of nutraceuticals for preventive, promotive and curative health management
3. Learn the regulations and health claims for use of nutraceuticals in India
4. Get an overview about the steps involved in food functionalization

Course Code: MSD 302 Information Technology in Nutrition & Healthcare (Practical)

Semester: III

Credits: 4

On completion of the course the students will be able to –

1. Demonstrate knowledge of role and relevance of information and communication technology in the area of nutrition and healthcare.
2. Get acquainted with the concepts of healthcare information management system
3. Apply various technology assisted tools and common software used for assessment and analysis of dietary intake and nutritional status.
4. Learn the principles of communicating nutrition and health related topics to varied audience in the community

Course Code: MSD 306 Holistic Wellness (Practical)

Semester: III

Credits: 4

On completion of the course the students will be able to –

1. Apply the core components of fitness and nutrition management
2. Incorporate traditional yoga science into contemporary Dietetics practice
3. Integrate principles of Ayurveda in dietetics practice.
4. Gain knowledge about the various alternative therapies currently being used in practice.

### DIABETES AND CARDIAC NUTRITION

<p>Course Code: MSD 303 Pediatric and Adolescent Diabetes and Preventive Nutrition Therapy in Metabolic Disorders (Theory)</p> <p>Semester:III Credits: 4</p> <p>On completion of the course the students will be able to –</p> <ol style="list-style-type: none"> <li>1. Learn the principles of medical nutrition therapy used in pediatric population with Type 1 and Type 2 Diabetes</li> <li>2. Understand the medical and nutritional complications associated with Type 1 and Type 2 Diabetes in pediatric age group</li> <li>3. Explain the effect of Type 1 and Type 2 diabetes on the growth and development in different age groups.</li> <li>4. Learn goals and strategies of clinical and nutritional management of PCOS, thyroid disorders and metabolic syndrome.</li> <li>5. Discuss techniques of psychosocial management of diabetes and recommendations for cardiac rehabilitation in people with cardiovascular disorders</li> </ol>	<p>Course Code: MSD 304 Pediatric and Adolescent Diabetes and Preventive Nutrition Therapy in Metabolic Disorders (Practical)</p> <p>Semester:III Credits: 4</p> <p>On completion of the course the students will be able to –</p> <ol style="list-style-type: none"> <li>1. Develop the ability to plan and prepare diets for complications in pediatric patients with Type 1 and Type 2 Diabetes</li> <li>2. Apply and integrate the basic principles in total patient management and education in Type 1 and 2 Diabetes Mellitus in children and adolescents in different age groups \</li> <li>3. Plan diet and lifestyle management programs for women with polycystic ovarian syndrome, metabolic syndrome and thyroid disorders.</li> <li>4. Get acquainted with the techniques and recommendations for prevention of cardio metabolic risk factors in adults</li> </ol>
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### RENAL NUTRITION

<p>Course Code: Pediatric Kidney Nutrition &amp; Dialysis Nutrition(Theory)</p> <p>Semester:III Credits: 4</p> <p>On completion of the course the students will be</p>	<p>Course Code: Pediatric Kidney Nutrition and Dialysis Nutrition (Practical)</p> <p>Semester:III Credits: 4</p> <p>On completion of the course the students will be able to –</p> <ol style="list-style-type: none"> <li>1. Understand the different diseases of</li> </ol>
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<p>able to –</p> <ol style="list-style-type: none"> <li>1. Understand the different diseases of kidney in children</li> <li>2. Relate to the etiology, causes, symptoms, types and diagnosis of these diseases</li> <li>3. Explain the medical nutrition therapy principles</li> <li>4. Relate to the etiology, causes, symptoms, types and diagnosis of these diseases</li> <li>5. Explain the medical nutrition therapy principles</li> <li>6. Describe the various types of dialysis and the complications of dialysis</li> <li>7. Elaborate the importance of nutrition in dialysis and transplant</li> </ol>	<p>kidney in children</p> <ol style="list-style-type: none"> <li>2. Relate to the etiology, causes, symptoms, types and diagnosis of these diseases</li> <li>3. Explain the medical nutrition therapy Principles</li> <li>4. Describe the various types of dialysis and the complications of dialysis</li> <li>5. 5. Elaborate the importance of nutrition in dialysis and transplant</li> </ol>
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### PEDIATRIC NUTRITION

<p>Course Code: Pediatric Onco Nutrition and Nutrition in Pediatric Gastroenterology (Theory)</p> <p>Semester:III Credits: 4</p> <p>On completion of the course the students will be able to –</p> <ol style="list-style-type: none"> <li>1. Understand the etiology and classes of cancer</li> <li>2. Learn the various assessment techniques and parameter important for study in cancer</li> <li>3. Relate to the treatment provided to patients for nutritional assessment</li> <li>4. Gain insight in to the various</li> </ol>	<p>Course Code: Pediatric Onco Nutrition and Nutrition in Pediatric Gastroenterology (Practical)</p> <p>Semester:III Credits: 4</p> <p>On completion of the course the students will be able to –</p> <ol style="list-style-type: none"> <li>1. Understand the etiology and classes of cancer</li> <li>2. 2. Learn the various assessment techniques and parameter important for study in cancer Relate to the treatment provided to patients for nutritional assessment</li> <li>3. Gain insight in to the various complications associated with cancer</li> <li>4. Apply dietary principals in</li> </ol>
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<p>complications associated with cancer</p> <ol style="list-style-type: none"> <li>5. Understand the etiology and classes of gastrointestinal diseases</li> <li>6. Learn the various assessment techniques and parameter important for study in gastroenterology</li> <li>7. Relate to the treatment provided to patients for nutritional assessment</li> <li>8. Gain insight in to the various complications associated with gastric diseases</li> </ol>	<p>prescribing diets for patients according to the medical condition</p> <ol style="list-style-type: none"> <li>5. Understand the gastrointestinal diseases</li> <li>6. Learn the various assessment techniques and parameter important for study in gastrointestinal diseases</li> <li>7. Relate to the treatment provided to patients for nutritional assessment</li> <li>8. Gain insight in to the various complications associated with gastro diseases.</li> <li>9. Apply dietary principals in prescribing diets for patients according to the medical condition</li> </ol>
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#### SEMSETER 4- HANDS ON TRAINING MODULE

Course Code: MSD 402 Scientific Writing for Nutrition and Dietetics Professionals (Practical )

Semester: IV

Credits: 4

On completion of the course the students will be able to –

1. Learn the basic skills necessary to write nutrition- and health-related papers that are clear, accurate, and audience-appropriate
2. Understand the principles of well-organized writing and incorporate these into their own written work.
3. Develop skills required to present paper and poster in academic forums.

Course Code: MSD 404 Case Study Reviews (Practical )

Semester: IV

Credits: 4

On completion of the course the students will be able to –

1. Get an introduction to case study methodology and guidelines for researchers conducting case studies and readers studying reports of such studies.

2. Identify the key issues of the case, analyze the case using relevant theoretical concepts and recommend a course of action for that particular case
3. Understand the key methodological considerations in relation to the design, planning, analysis, interpretation and reporting of case studies.

Course Code: MSD 401 DISSERTATION (Practical)

Semester: IV

Credits: 8

On completion of the course the students will be able to –

1. Present the areas of research and develop general research skills
2. Facilitate students in research process and adopt best practices in research,
3. Establish linkages with organizations and institutions for professional growth and development.

Course Code: MSD 403 INTERNSHIP (Practical)

Semester: IV

Credits: 8

On completion of the course the students will be able to –

1. Gain hands on experience of working in various institutions related to the area of Food and Nutrition.
2. The students could work with NGOs / Government agencies / International agencies/ Hospitals / Food Industries etc. 2. Present a report to the department