# Clinical Nutrition and Dietetics Laboratories

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<tr>
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<td>Nutrition Assessment Laboratory</td>
<td>W12-144</td>
<td>Salma Abu Qiyas</td>
<td>Clinical Nutrition &amp; Dietetics Department</td>
<td>Nutrition Assessment &amp; Diet Planning &amp; Disease &amp; Clinical Nutrition Practicum (1A) &amp; (3A)</td>
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<td>Food Processing &amp; Preparation Laboratory</td>
<td>W12-146</td>
<td>Salma Abu Qiyas</td>
<td>Clinical Nutrition &amp; Dietetics Department</td>
<td>Food Processing &amp; Preparation &amp; Diet Planning &amp; Disease &amp; Clinical Nutrition Practicum (1A) &amp; (3A)</td>
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<td>Food Analysis Laboratory</td>
<td>W12-009 M12-130</td>
<td>Hanin Kassem</td>
<td>Clinical Nutrition &amp; Dietetics Department</td>
<td>Food Analysis</td>
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<td>Food Microbiology Laboratory</td>
<td>W12-143</td>
<td>Hanin Kassem</td>
<td>Clinical Nutrition &amp; Dietetics Department</td>
<td>Food Microbiology</td>
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INTRODUCTION
Laboratory sessions complement the theory taught regarding different aspects of nutritional assessment such as: anthropometric, laboratory, clinical and dietary assessments including an evaluation of their strengths and limitations. The lab provides development of practical skills and active application of tools and techniques used for assessment of nutritional status.

EQUIPMENT AND INSTRUMENTS
- Weighing Scale
- Height Meter
- Skin Fold Calipers
- Measuring Tapes
- Body Composition Analyzer (BCA Machine) and Lookin’ Body Basic Software
- Stethoscope
- Blood Pressure Instrument
- Stop Watch
- Diet Sheets/ Questionnaires/ Formats
- Simulated Food Models
- Step for Fitness Test
- ESHA Software for Nutrient Analysis
- Infantometer

EXPERIMENTS
- Body Measurements: Standing Height, Circumferences (Head, Mid-Upper Arm, Chest, Waist, Hips, Wrist)
- Body Mass: Weight
- Body Composition: Skin Fold Thickness (Biceps, Triceps, Sub-Scapular, Supra-Iliac); Body Composition Through BCA Machine
- Blood Pressure
- Pulse Rate
• Nutritional Assessment Through Anthropometric Indices (Weight for Height, Height for Age and Weight for Age, Body Mass Index- BMI, Ideal Body Weight, Adjusted Body Weight, Body Frame Size, Waist Hip Ratio, Head to Chest Ratio)
• Nutritional Assessment in Hospitalized Condition and Weight Changes
• Energy Expenditure: Basal Energy Expenditure (BEE) Using Harris Benedict and Mifflin Equations
• Dietary Intake: 24-Hour Recall, Diet History, Food Frequency, Observation, Weighment Methods
• Nutrient Intakes Calculations Based on the Dietary Intake
• Functional Test Using a Step to Assess Fitness
• Clinical Assessment Through Examination of Clinical Signs from Head to Toe
• Hospital Visits to Collect Information on the Important Biochemical Parameters Used in Nutritional Assessment and Their Normal Ranges
• Effective Counseling: Demonstration of Nutritional Counseling and Mock Sessions

TESTS AND SERVICES
• Body Composition Analysis
• Nutritional Assessment
INTRODUCTION
The Food Processing and Preparation Laboratory has a range of equipment and tools used for undergraduate student teaching. Practical training is combined with theoretical knowledge to equip students with the skills and scientific applications for food processing and preparation.

EQUIPMENT AND INSTRUMENTS
Kitchenette- working stations for students equipped with the tools required in the kitchen for processing and preparing food.

EXPERIMENTS
- Measuring Techniques
- Methods of Cooking Including Moist Heat, Dry Heat & Microwave Cooking
- Sanitation in Food Processing and Preparation
- Vegetables Cooking
- Cereals Cooking
- Fruit Cooking
- Meat and Poultry Cooking
- Milk and Milk Products
- Eggs and Custards
- Yeast Leavened Breads
- Butter Type Cakes

TESTS AND SERVICES
- Development for New Products
INTRODUCTION
The Food Analysis Laboratory is a special laboratory used for teaching undergraduate students. This lab introduces students to the methods of food chemistry analysis, its use and limitations. Procedures and instruments for the analysis of specific food components are demonstrated and practiced. Practical training focuses on the analysis of various food groups for their major and minor food components including their chemical separation, identification and quantification using classical and modern instrumental food analysis techniques.

EQUIPMENT AND INSTRUMENTS
- pH Meter
- Analytical Balances
- Ovens
- Vacuum Oven
- Muffle Furnace
- Complete Soxhelt Unit
- Fiber Tech System
- Digital Refractometer
- Digital Colorimeter

EXPERIMENTS
- PH and Total Soluble Solids
- Moisture
- Ash
- Freezing Point
- Water Activity
- Lipids
- Carbohydrates
- Fiber
- Minerals
- Color

TESTS AND SERVICES
- Analysis of Food Composition
INTRODUCTION
The Food Microbiology Laboratory is used for teaching undergraduate students. This lab orients students to the basic activities in food microbiology and detection of specific microorganisms in food like bacteria, molds and yeast. Experiments include preparation of microbial culture, staining techniques, disinfection and sterilization, isolation of microbial cultures in specific foods. The students will learn how to enumerate and confirm a variety of food-borne bacteria and develop an understanding of factors affecting micro-flora of foods.

EQUIPMENT AND INSTRUMENTS
- PH Meter
- Normal Incubators
- CO2 Incubators
- Autoclave
- Stomacher
- Laminator Cabinet
- Analytical Balances

EXPERIMENTS
- Food Sample Preparation
- Gram Staining
- Micro-Flora of Air
- Aerobic Counts in Foods
- Coliforms Detection
- Yeasts and Moulds in Foods
- Salmonella in Poultry
- Microbiology of Water
- Processed Foods Examination: Canned Food, Cold and Frozen and Fresh Foods
- Spore Forming Bacteria in Dried Foods

TEST AND SERVICE
- Microbial Analysis