

# Medical Devices and Terminology FORM

## نموذج وصف المادة الدراسية

| Module Information                 |  |                               |   |
|------------------------------------|--|-------------------------------|---|
| لومات المادة الدراسية              |  |                               |   |
| Module Title                       | <b>Medical Devices and Terminology</b> |                               | Module Delivery   |
| Module Type                        | Core                                   |                               | <input checked="" type="checkbox"/> Theory<br><input type="checkbox"/> Lecture<br><input type="checkbox"/> Lab<br><input type="checkbox"/> Tutorial<br><input type="checkbox"/> Practical<br><input type="checkbox"/> Seminar |
| Module Code                        | UOMU0302025                            |                               |   |
| ECTS Credits                       | 5                                      |                               |   |
| SWL (hr/sem)                       | 125                                    |                               |   |
| Module Level                       | 1                                      | Semester of Delivery          |   |
| Administering Department           | الأنظمة الطبية الذكية                  | College                       | العلوم  |
| Module Leader                      |  | e-mail                        |   |
| Module Leader's Acad. Title        | Lecturer                               | Module Leader's Qualification | Ph.D  |
| Module Tutor                       | Name (if available)                    | e-mail                        | E-mail  |
| Peer Reviewer Name                 |  | e-mail                        |   |
| Scientific Committee Approval Date | 01/06/2023                             | Version Number                | 1.0   |

| Relation with other Modules    |        |          |   |
|--------------------------------|--------|----------|---|
| للعلاقة مع لومات دراسية الأخرى |        |          |   |
| Prerequisite module            | IMS112 | Semester | 1 |
| Co-requisites module           | None   | Semester |   |

## Module Aims, Learning Outcomes and Indicative Contents

### هأداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

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| <p><b>Module Aims</b></p> <p>هأف المادة الدراسية</p>                       | <p>The primary goal of the medical terminology course is provide students with the language skills necessary to navigate and understand the specialized terminology used in healthcare settings, and this will by including:</p> <ol style="list-style-type: none"><li>1. Understanding the structure of medical terms: the course aims to introduce the basic elements of the medical terms such as prefixes, suffixes and word roots and how they combine to form meaningful medical terms.</li><li>2. Building a comprehensive medical terms: the course object to equip students with a broad range of medical terms and their meanings, enabling them to effectively communicate and understand medical information.</li><li>3. Medical terminology is learning a new language: thus the course aims to teach students how to pronounce, speak and write medical terms correctly.</li><li>4. The course also aims to introduce students to a wide range of medical terms related to anatomical, physiological, organs, tissues, diseases, and surgical procedures of human body, and a wide range of medical devices and their importance in the diagnosis of the a wide range of diseases.</li><li>5. Empower communications skills: medical devices and terminology course emphasis the ability of students to confidently communicate and interact with healthcare professionals, patients, and medical records.</li></ol> |
| <p><b>Module Learning Outcomes</b></p> <p>بؤجات التعلم للمادة الدراسية</p> | <p>By the end of the medical terminology module, students will be able to:</p> <ol style="list-style-type: none"><li>1. To develop a broad understanding of medical and terminology, including prefixes, suffixes, root words and combining forms.</li><li>2. To pronounce and spell medical terms correctly and accurately.</li><li>3. Students will identify the medical terms as it relates to the anatomy, physiology, and disease of the human body.</li><li>4. Students will get knowledge of a wide range of medical devices terms and their importance.</li><li>5. Students will be able to connect the suitable medical device for each organ system.</li><li>6. Students should improve their communications skills by using the medical terms have learned in the healthcare's institutions and healthcare's professionals.</li></ol>   |
| <p><b>Indicative Contents</b></p> <p>لامحتويات الإرشادية</p>               | <ol style="list-style-type: none"><li>1. Introduction to medical terminology: (2 hrs)<ul style="list-style-type: none"><li>o What is the medical terminology and why it's important?</li><li>o Structure of medical terms: prefixes, suffixes and wordroot.</li></ul></li><li>2. Symptoms and signs: (2 hrs)<ul style="list-style-type: none"><li>o The differences between symptoms and signs</li><li>o Several examples of symptoms and signs of diseases.</li></ul></li><li>3. Medical Devices and Terminology of the body systems (10 hrs)<ul style="list-style-type: none"><li>o Terms related to body system and structures like cardio, neuro, angio.</li><li>o Terms related to body diseases like angioplasty, gastritis.</li><li>o Medical devices related to the diagnosis and treatment of human organ systems.</li></ul></li><li>4. Medical terminology of surgical procedures, diagnostic tests and medical</li></ol>  |

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|  | <p>devices: (10 hrs)</p> <ul style="list-style-type: none"> <li>○ Terms related to procedures done by specialists on human body like pulmonary angiography, thoracentesis and thoracotomy.</li> <li>○ Terms related to laboratory tests and examination techniques like imaging, biochemistry tests like cholangiography.</li> <li>○ Terms related to medical devices like CT scan and NMR</li> </ul> <p>5. Applications and practices: (6 hrs)</p> <ul style="list-style-type: none"> <li>○ Medical Devices and Terminology exercises and quizzes.</li> <li>○ Practical applications of medical terminology in real-world scenarios.</li> </ul> |
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| <b>Learning and Teaching Strategies</b><br>ستراتيجيات التعلم والتعليم |   |
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| <b>Strategies</b>   | <p>The main strategy of learning is by active and encourage students to actively participate in their learning process by group discussions, case studies, problem-solving exercises and interactive activities that require students to apply medical terminology in practical scenarios. Teaching strategies will be achieved by clear explanation and breakdown of the medical terms. Incorporate interactive elements into lectures, such as asking questions, encouraging student's participation and providing opportunities for discussions and clarifications. In addition, using visual aids, multimedia presentations and online resources to supplement lectures and provide visual representations of medical terms and concepts.</p> |

| <b>Student Workload (SWL)</b><br>لاحتامل لادراسي للطالب                         |     |  |   |
|---|-----|--|---|
| <b>Structured SWL (h/sem)</b><br>لاحتامل لادراسي لمنتظم للطالب خلال لافصل       | 64  | <b>Structured SWL (h/w)</b><br>لاحتامل لادراسي لمنتظم للطالب أسبوعيا       | 4 |
| <b>Unstructured SWL (h/sem)</b><br>لاحتامل لادراسي غير لمنتظم للطالب خلال لافصل | 61  | <b>Unstructured SWL (h/w)</b><br>لاحتامل لادراسي غير لمنتظم للطالب أسبوعيا | 4 |
| <b>Total SWL (h/sem)</b><br>لاحتامل لادراسي لأكلي للطالب خلال لافصل             | 125 |  |   |

| <b>Module Evaluation</b><br>قتييم المادة الدراسية |  |
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|                      |                 | Time/Number | Weight (Marks)   | Week Due    | Relevant Learning Outcome |
|----------------------|-----------------|-------------|------------------|-------------|---------------------------|
| Formative assessment | Quizzes         | 2           | 10% (10)         | 3, 5, 9, 11 | LO # 1 and 2              |
|                      | Assignments     | 2           | 10% (10)         | 5, 10       | LO # 1, 2, 3 and 4        |
|                      | Projects / Lab. | 1           | 10% (10)         | Continuous  |                           |
|                      | Report          | 2           | 10% (10)         | 6, 12       | LO # 5 and 6              |
| Summative assessment | Midterm Exam    | 2 hr        | 10% (10)         | 7           | LO # 1-7                  |
|                      | Final Exam      | 2hr         | 50% (50)         | 16          | All                       |
| Total assessment     |                 |             | 100% (100 Marks) |             |                           |

### Delivery Plan (Weekly Syllabus)

#### المنهاج الاسبوعي للانظري

|        | Material Covered   |
|--------|--|
| Week 1 | <b>Introduction and basic elements of medical terminology</b> <ul style="list-style-type: none"> <li>• Word roots</li> <li>• Prefixes</li> <li>• Suffixes</li> <li>• determine the medical term meaning</li> </ul>   |
| Week 2 | <b>Symptoms and signs</b> <ul style="list-style-type: none"> <li>• Symptoms general definitions and examples</li> <li>• Medical signs general definitions and examples</li> <li>• The differences between symptoms and signs</li> <li>• Examples of symptoms and signs of some diseases.</li> </ul>  |
| Week 3 | <b>Medical devices terminology of the cardiovascular system</b> <ul style="list-style-type: none"> <li>• Cardiovascular specialties</li> <li>• Structure of the cardiovascular system</li> <li>• Diseases and conditions of the cardiovascular system</li> <li>• Medical devices in cardiology (ECG, Cardiac Pacemaker, Echocardiography, Angiography, etc.).</li> </ul>   |
| Week 4 | <b>Medical devices and terminology of the gastrointestinal system</b> <ul style="list-style-type: none"> <li>• Gastrointestinal specialties</li> <li>• Structure and functions of the gastrointestinal system</li> <li>• Diagnostic terms of the gastrointestinal system</li> <li>• Diseases and conditions of the gastrointestinal system</li> <li>• Medical devices of the gastrointestinal (Endoscope, Capsule Endoscopy, Esophageal Manometry, etc.).</li> </ul> |
| Week 5 | <b>Medical terms and devices of the respiratory system</b> <ul style="list-style-type: none"> <li>• Respiratory specialties</li> <li>• Structure of the respiratory system</li> </ul>  |

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|                | <ul style="list-style-type: none"> <li>• Diagnostic and medical devices of the respiratory system (Spirometer, Nebulizer, Ventilators, CPAP/BPAP, etc.).</li> <li>• Procedures of the respiratory system</li> <li>• Disease and conditions of the respiratory system</li> </ul>   |
| <b>Week 6</b>  | <b>Medical terms and devices of the musculoskeletal system</b> <ul style="list-style-type: none"> <li>• <b>Musculoskeletal system specific suffixes and prefixes</b></li> <li>• <b>Musculoskeletal specialties</b></li> <li>• <b>Structure of the muscular system</b></li> <li>• <b>Structure of the skeletal system</b></li> <li>• <b>Procedures of the musculoskeletal system</b></li> <li>• <b>Diseases and conditions of the musculoskeletal system</b></li> <li>• <b>Medical devices of the musculoskeletal system (Orthoses, Crutches, Prosthetics, etc.,)</b></li> </ul> |
| <b>Week 7</b>  | <b>Midterm Exam</b>   |
| <b>Week 8</b>  | <b>Medical terms and devices of the endocrine system</b> <ul style="list-style-type: none"> <li>• <b>Endocrine specialties</b></li> <li>• <b>Structure and functions of the endocrine system</b></li> <li>• <b>Diseases and disorders of the endocrine system</b></li> <li>• <b>Diagnostics and medical devices of the endocrine system (Glucose meters, Insulin pens and pumps, Thyroid Ultrasound, Parathyroid Scintigraphy, Bone Densitometers, etc.,)</b></li> </ul>  |
| <b>Week 9</b>  | <b>Medical terms and devices of the lymphatic and immune system</b> <ul style="list-style-type: none"> <li>• <b>Medical terms of the lymphatic system</b></li> <li>• <b>Medical terms of the immune system</b></li> <li>• <b>Medical devices and diagnostics (Lymphoscintigraphy).</b></li> </ul>   |
| <b>Week 10</b> | <b>Medical terms of the pathogenic organisms</b> <ul style="list-style-type: none"> <li>• <b>Type of disease</b></li> <li>• <b>Diagnostics and examinations</b></li> <li>• <b>Role of image devices of the diagnosis of pathogens.</b></li> <li>• <b>Laboratory devices.</b></li> </ul>   |
| <b>Week 11</b> | <b>Medical terms and devices in oncology</b> <ul style="list-style-type: none"> <li>• <b>Types of cancers</b></li> <li>• <b>Procedures and examinations</b></li> <li>• <b>Biopsy Devices, Radiation Therapy Devices, Imaging Devices, PET, Mammography).</b></li> </ul>   |
| <b>Week 12</b> | <b>Medical terms in pharmacology</b> <ul style="list-style-type: none"> <li>• <b>Basic terms in pharmacodynamics</b></li> <li>• <b>Basic terms in pharmacokinetics</b></li> <li>• <b>Drug delivery devices and monitoring.</b></li> </ul>   |
| <b>Week 13</b> | <b>Medical Terms of the nervous system</b> <ul style="list-style-type: none"> <li>• <b>Structure of the nervous system</b></li> <li>• <b>Procedures and examinations of the nervous system</b></li> <li>• <b>Medical devices in nervous system (Electroencephalogram, Electromyography, Nerve Conduction Studies, MRI, etc.).</b></li> </ul>  |
| <b>Week 14</b> | <b>Presentations, discussions and case studies</b>  |

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| <b>Week 15</b> | <b>Tutorial about the course topic</b>        |
| <b>Week 16</b> | <b>Preparatory week before the final Exam</b> |

## Delivery Plan (Weekly Lab. Syllabus)

لامنهاج الاسبوع للمختبر

|        | Material Covered |
|--------|------------------|
| Week 1 |                  |
| Week 2 |                  |
| Week 3 |                  |
| Week 4 |                  |
| Week 5 |                  |
| Week 6 |                  |
| Week 7 |                  |

## Learning and Teaching Resources

ادر التعلم والتدريس

|                   | Text   | Available in the Library? |
|-------------------|--|---------------------------|
| Required Texts    | <ul style="list-style-type: none"><li>- "Medical Terminology for Health Professions" by Ann Ehrlich and Carol L. Schroeder</li><li>- "Medical Device Design: Innovation from Concept to Market" by Peter J. Ogradnik</li></ul>   | Yes                       |
| Recommended Texts | <ul style="list-style-type: none"><li>- "A Short Course in Medical Terminology" by C. Edward Collins</li><li>- "Medical Devices: Surgical and Image-Guided Technologies" by R.M. Kenedi and R.J. Macnab</li><li>- "Medical Terminology Systems: A Body Systems Approach" by Barbara A. Gyls and Mary Ellen Wedding</li></ul> | No                        |
| Websites          | <ul style="list-style-type: none"><li>- MedlinePlus (medlineplus.gov)</li></ul>  |                           |

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|  | <ul style="list-style-type: none"> <li>- MedTerms (medterms.com)</li> <li>- Healthline (healthline.com)</li> <li>- Medical Device Innovation Consortium</li> </ul> |
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| <b>Grading Scheme</b><br>نظام الدرجات |                  |                   |           |                                       |
|---------------------------------------|------------------|-------------------|-----------|---------------------------------------|
| Group                                 | Grade            | للتقدير           | Marks (%) | Definition                            |
| <b>Success Group (50 - 100)</b>       | A - Excellent    | ماتياز            | 90 - 100  | Outstanding Performance               |
|                                       | B - Very Good    | د جدا             | 80 - 89   | Above average with some errors        |
|                                       | C - Good         | د                 | 70 - 79   | Sound work with notable errors        |
|                                       | D - Satisfactory | تموسط             | 60 - 69   | Fair but with major shortcomings      |
|                                       | E - Sufficient   | بول               | 50 - 59   | Work meets minimum criteria           |
| <b>Fail Group (0 - 49)</b>            | FX – Fail        | فب (قيد المعالجة) | (45-49)   | More work required but credit awarded |
|                                       | F – Fail         | فب                | (0-44)    | Considerable amount of work required  |
|                                       |                  |                   |           |                                       |

**Note:** Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.