

# Course Specification

## (2025)

### 1. Basic Information

|   |  |                  |                        |              |
|---|--|------------------|------------------------|--------------|
| Course Title (according to the bylaw)                         | <b>Infection Control and Radiology protection</b>    |                  |                        |              |
| Course Code (according to the bylaw)                          | TRMI 405   |                  |                        |              |
| Department/s participating in delivery of the course          | Technology of Radiology and Medical Imaging          |                  |                        |              |
| Number of credit hours of the course (according to the bylaw) | <b>Theoretical</b>                                   | <b>Practical</b> | <b>Other (specify)</b> | <b>Total</b> |
|   | 2  | 1                | -                      | 3            |
| Course Type   | Compulsory   |                  |                        |              |
| Academic level at which the course is taught                  | Level 4 – 1 <sup>st</sup> Semester                   |                  |                        |              |
| Academic Program  | Technology of Radiology and Medical Imaging          |                  |                        |              |
| Institute   | High Technology Institute of Applied Health Sciences |                  |                        |              |
| Academy   | Nile Delta for sciences                              |                  |                        |              |
| Name of Course Coordinator                                    | Dr. Amira Atef, doctor lecturer of                   |                  |                        |              |

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|   | Biology Radiation Science<br>Institute of High Technology<br>Institute of Applied Health<br>Science<br><br>Dr Heba allah Dowidar<br><br>Lecturer of Bacteriology,<br>Immunology and Mycology |
| Course Specification Approval Date  | Department Council No. 2, date:<br>(21 – 09 – 2024)  |
| Course Specification Approval (Attach the decision/minutes of the department /committee/council ....) |  |

## 2. Course Overview (Brief summary of scientific content)

This course helps to increase the knowledge of key infection prevention and control principles. It also develops an awareness of the potential hazards in radiology departments and its immediate surroundings it ensures that the student takes reasonable preventive remedial measures, and that he knows the action he should take when an accident occurs. The content also provides an over view of the principles of radiation protection. Including the responsibilities of radiological technologist

## 3. Course Learning Outcomes CLOs

**Matrix of course learning outcomes CLOs with program outcomes POs (ARS)**

| <b>Program Outcomes (ARS)</b><br>(according to the matrix in the program specs) |   | <b>Course Learning Outcomes</b><br>Upon completion of the course, the student will be able to: |   |
|---|---|--|---|
| <b>Cod e</b>  | <b>Text</b>   | <b>Code</b>  | <b>Text</b>   |
| <b>Pos 1.3.1</b>  | Contribute to continuous - quality management and .improvement  | <b>CLOs1</b>   | -Describes what the effect of infection control is.                 |
| <b>Pos 1.3.2</b>  |   |  | -Understand the hazard of infection.                                |
| <b>Pos 2.1.1</b>  |   |  | -Discusses what Radiation shielding                                 |
| <b>Pos 2.1.1</b>  | Apply quality control - measures to ensure test .accuracy and reliability                                 | <b>CLOs2</b>   |   |
| <b>Pos 2.1.3</b>  |   | <b>CLOs3</b>   |   |
| <b>Pos 2.1.3</b>  |   | <b>CLOs4</b>   | -Define what non-stochastic (deterministic) and stochastic effects. |
| <b>Pos 2.2.1</b>  | Exhibit appropriate - professional behaviors and relationships in all aspects of medical imaging practice | <b>CLOs5</b>   | -Understand of radiation emergence                                  |
| <b>Pos 2.2.2</b>  |   |  |   |
|   |   |  |   |

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|---|---|--|-------------|
| <b>Code</b>   | <b>Text</b>   | <b>Code</b>  | <b>Text</b> |
| Pos 2..4.1  | Practice in an ethical and-professional manner consistent with relevant legislation and regulatory requirements in medical .imaging |  |             |

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|---|--|--|--|
| <b>Code</b>   | <b>Text</b>  | <b>Code</b>  | <b>Text</b>                                  |
|   | <p>Adopt suitable measures - for infection control in medical imaging .environment</p> <p>Adhere to strict biosafety - regulations and standards</p> |  |  |
| <b>Pos 3.2.5</b>  | Coordinate with multidisciplinary healthcare teams to  | <b>CLOs6</b>   | -Explain the importance of infection control |

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|---|--|--|--|
| <b>Code</b>   | <b>Text</b>  | <b>Code</b>  | <b>Text</b>  |
| 3.2.-6  | confirm all preparatory requirements are met, including equipment readiness, patient positioning, and adherence to infection control and radiation safety measures | <b>CLOs7</b>   | -Classification of radiation working area  |
|   |  | <b>CLOs8</b>   |  |
|   |  | <b>CLOs9</b>   | -Create Design of Diagnostic Medical Facilities where Ionizing Radiation is used   |
|   |  | <b>CLOs10</b>  |  |
|   | Implement appropriate physical and psychological preparation   |  | -Confirm what can you do for responsibilities to protection from radiation<br><br>-Apply two categories of exposed radiation workers where |

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|---|--|--|---|
| <b>Code</b>   | <b>Text</b>  | <b>Code</b>  | <b>Text</b>   |
|   | measures such as fasting instructions, contrast administration protocols, and anxiety reduction strategies in accordance with established clinical .guidelines |  | they are 1-Unclassified Radiation Worker and 2- Classified Radiation Workers Corresponding to the types of area |
|   |  |  |   |
|   |  |  |   |
|   |  |  |   |
|   |  |  |   |
|   |  |  |   |
|   |  | <b>CLOs11</b>  | Apply infection protection steps  |
|   |  | <b>CLOs12</b>  | protection of the radiation worker  |

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|---|-------------|--|--|
| <b>Code</b>   | <b>Text</b> | <b>Code</b>  | <b>Text</b>  |
|   |             | <b>CLOs13</b><br><br><b>CLOs14</b>   | <p>Apply licensee of the facility must set up the applicable protection measures to prevent exposure depending on the risks linked to the works that imply exposure to ionizing radiation</p> <p>Calculated radiation in a variety of ways using different units depending on whether radioactivity, exposure, absorbed dose, or dose equivalent (dose adjusted for the radiation type's potential ability to damage the body) are being described</p> |
|   |             | <b>CLOs15</b><br><br><b>CLOs16</b>   | <p>Influences and interacts well with others in the workplace (D.1.,D.5.)</p> <p>High efficiency in problem-solving procedures at the individual or institutional level. (D.4.,D.8.)</p>   |



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|---|-------------|--|-------------|
| <b>Code</b>   | <b>Text</b> | <b>Code</b>  | <b>Text</b> |
|   |             |  |             |
|   |             |  |             |
|   |             |  |             |

#### 4. Teaching and Learning Methods

Interactive Lectures  
 Discussion and brain storming  
 Self-Directed Learning (SDL):  
 Practical Learning  
 Guiding during office hours

#### Course Schedule

| Number of the Week | Scientific content of the course<br>(Course Topics)           | Total Weekly Hours | Expected number of the Learning Hours                       |  |   |                             |
|--------------------|---|--------------------|---|--|---|-----------------------------|
|                    |   |                    | Theoretical teaching<br>(lectures/discussion groups/ .....) | Training<br>(Practical/ Clinical/ .....) | Self-learning<br>(Tasks/ Assignments / Projects/ ...) | Other<br>(to be determined) |
| 1                  | The general principles of infection prevention and control I  | 2                  | 1   | 1  | 1   | -                           |
| 2                  | The general principles of infection prevention and control II | 2                  | 1   | 1  | 1   | -                           |
| 3                  | The transmission of communicable diseases                     | 2                  | 1   | 1  | 1   | -                           |
| 4                  | Cleaning and disinfection                                     | 2                  | 1   | 1  | 1   | -                           |
| 5                  | Performance Indicators  | 2                  | 1   | 1  | 1   |                             |
| 6                  | Mid term  |                    |   |  |   |                             |
| 7                  | Design of radiologic facilities & radiation shielding         | 2                  | 1   | 11                                       | 1   | -                           |
| 8                  | protection of the radiation worker                            | 2                  |   | 1  | 1   | -                           |
| 9                  | How is Radiation Measured?                                    | 2                  | 1   | 1  | 1   | -                           |
|                    |   |                    |   |  |   |                             |

|    |   |   |   |   |   |   |
|----|---|---|---|---|---|---|
| 10 | Radiation safety education                            | 2 | 1 | 1 | 1 | - |
| 11 | Radiation Protection Of Patients                      | 2 | 1 | 1 | 1 | - |
| 12 | Radiation Emergencies                                 | 2 | 1 | 1 | 1 | - |
| 13 | Design of radiologic facilities & radiation shielding | 2 | 1 | 1 | 1 | - |
| 14 | Revision  | 2 | 1 | 1 | 1 | - |
| 15 | Practical exam  |   |   |   |   |   |
| 16 | Final exam  |   |   |   |   |   |

### Methods of students' assessment

| No . | Assessment Methods *              | Assessment Timing<br>(Week Number) | Marks/ Scores | Percentage of total course Marks |
|------|-----------------------------------|------------------------------------|---------------|----------------------------------|
| 1    | Exam 1written (Semester work)     | -                                  | -             | -                                |
| 2    | Mid- term                         | 6                                  | 10            | 6.6%                             |
| 3    | Final Written Exam                | 15                                 | 100           | 66.6%                            |
| 4    | Final Practical/Clinical/... Exam | 14                                 | 30            | 20%                              |
| 5    | Final Oral Exam                   | -                                  | -             | -                                |
| 6    | Assignments / Project /Portfolio/ | 6                                  | 10            | 6.6%                             |

|   |                 |   |   |   |
|---|-----------------|---|---|---|
|   | Logbook         |   |   |   |
| 7 | Field training  | - | - | - |
| 8 | Other (Mention) | - | - | - |

**\* The methods mentioned are examples, the organization may add and/or delete**

## 6. Learning Resources and Supportive Facilities \*

|  |  |   |
|--|--|---|
| <b>Learning resources (books, scientific references, etc.) *</b> | <b>The main (essential) reference for the course</b><br>(must be written in full according to the scientific documentation method) | <b>.Essential of Microbiology. Rajan, S., 2016</b><br><b>Microbiology. Anderson, d., Salm, S., Allen, D., .Nester.2015</b>  |
|  | <b>Other References</b>  | Infection Control – 2013CHRIS. H<br><a href="https://www.google.com.eg/books/edition/Infection_Control/sQSbzgEACAAJ?hl=ar&amp;sa=X&amp;ved=2ahUKEwilu8bS4pyFAxVFQkEAHV9EBtUQiqUDegQIERAC">https://www.google.com.eg/books/edition/Infection_Control/sQSbzgEACAAJ?hl=ar&amp;sa=X&amp;ved=2ahUKEwilu8bS4pyFAxVFQkEAHV9EBtUQiqUDegQIERAC</a> |
|  | <b>Electronic Sources</b><br>(Links must be added)   | <b>Knowledge bank:</b> <a href="https://www.ekb.eg/ar">https://www.ekb.eg/ar</a>  |
|  | <b>Learning Platforms</b><br>(Links must be added)   | bislms.mans.edu.eg<br><a href="https://bislms.mans.edu.eg/moodle2025/course/index.php?categoryid=87">https://bislms.mans.edu.eg/moodle2025/course/index.php?categoryid=87</a>   |
|  | <b>Other</b><br>(to be mentioned)  |   |

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|   |                         |                                 |
|---|-------------------------|---------------------------------|
| <b>Supportive facilities &amp; equipment for teaching and learning</b><br>* | Devices/Instruments     | Computer- boards and projectors |
|   | Supplies                | -                               |
|   | Electronic Programs     | Ibn al-Haytham program          |
|   | Skill Labs/ Simulators  | -                               |
|   | Virtual Labs            | -                               |
|   | Other (to be mentioned) | -                               |

**\* The list mentioned is an example, the institution may add and/or delete depending on the nature of the course**

**Name and Signature  
Course Coordinator**

Dr/Amira Atef

**Name and Signature  
Program Coordinator**

Dr/Amira Atef

