## Expected learning outcomes of the module 3

## Further laboratory and imaging examinations related to breast cancer diagnostics

The learner should be able to demonstrate advanced knowledge involving critical understanding of theory and principles of	Skills	Competences
<ul> <li>principles of</li> <li>Breast Ultrasound, MRI,</li> <li>Tomosynthesis, Contrast Enhanced</li> <li>Mammography, Gamma and</li> <li>Positron Emission Imaging : <ul> <li>Indications for performing</li> <li>breast examinations</li> </ul> </li> <li>Technological principles and varieties of techniques</li> <li>Patient safety issues</li> <li>Recognizing anatomical structures, physiological processes and specific signs of pathology</li> <li>Contrast media administration and radiopharmaceutical kinetics</li> <li>Patient centred care and positioning</li> <li>Image processing related to the different modalities</li> <li>Radiographer`s role in breast imaging examinations</li> </ul>	Adequately identify, inform and encounter the patient coming to breast imaging examinations Critically assess current clinical protocols and evaluate appropriate positioning techniques for breast imaging Inform and explain adequately on contrast media and radiopharmaceutical administration to establish women and patients' collaboration Critically evaluate the technical and diagnostic quality of breast images	Take responsibility when informing and explaining clinical procedures namely for obtaining women and patient informed consent. Provide/demonstrate advanced knowledge necessary to perform high quality breast examinations Demonstrate awareness of the radiographer`s professional role in breast cancer detection Apply an evidence-based approach to clinical decision- making and problem solving Evaluate their own practice with respect to current guidelines Be aware of the impact of inter- professional collaboration and CPD in the early breast cancer detection process
	improvement regarding patient safety and care	
<ul> <li>Biomedical laboratory examinations:</li> <li>Biopsy (core or fine needle) – Importance of pre-analytics variables for radiographers         <ul> <li>IHC Biomarkers and therapeutic decision (ER, PGR, HER2 and Ki-67)</li> </ul> </li> <li>Tumorectomy, sentinel lymph node and intra-operative exams         <ul> <li>Importance of the exams for the patient diagnosis, prognosis and therapy</li> </ul> </li> </ul>	Apply knowledge about sample collection and preservation in the context of breast cancer diagnostics. Apply knowledge about the impact of inappropriate preservation on laboratory tests that influence patients' diagnosis and therapeutic decision. Critically evaluate the	Be aware of advanced knowledge necessary to perform high quality laboratory examinations Be aware of optimal handling of laboratory samples at the pre- analytical phase. Demonstrate awareness of the biomedical laboratory scientist`s professional role in breast
Blood tests for disease and	according to the international standards for quality and competence in medical	Apply an evidence-based

	therapeutic monitoring	laboratories.	making and problem solving.
•	<ul> <li>Importance of inter-professional work in dealing with laboratory samples related to breast cancer</li> </ul>	Participate in quality improvement regarding patient safety and care.	Evaluate their own practice with respect to guidelines regarding the laboratory testing process.
	diagnostics	Critically evaluate the professional role of	
		biomedical laboratory	
		radiographer in creating the	
		conditions for effective	
		teamwork and productive	
		cancer diagnostics.	