



Licenciatura em Radiologia

Investigação Radiológica em Ciências Forenses

Proposta de Pós-graduação

Volume II

ANEXOS

Elaborado por:

Bruno Alves

Aluno n°: 201192468

Orientadores:

Mestre Jorge Moura

Professora Doutora Ana Pires

Barcarena

Junho de 2015



Licenciatura em Radiologia

Investigação Radiológica em Ciências Forenses

Proposta de Pós-graduação

Volume II

Elaborado por:

Bruno Alves

Aluno n°: 201192468

Orientadores:

Mestre Jorge Moura

Professora Doutora Ana Pires

Barcarena

Junho de 2015

O autor é o único responsável pelas ideias expressas neste documento.

Resumo

Investigação Radiológica em Ciências Forenses - Proposta de Pós-Graduação

No âmbito das Unidades Curriculares de Investigação Aplicada I e II, foi-nos pedido que realizássemos o nosso projeto final.

Assim, este Volume II consiste na compilação dos documentos utilizados para a realização e construção deste projeto, bem como o modelo final de Pós-Graduação que será apresentado ao Colégio de Estudos Pós-Graduados da Universidade Atlântica.

Abstract

Radiological Research in Forensic Science - Proposal for Post Graduate Studies

Under the Units of Applied Research I and II, we were asked to make our final project.

This Volume II is the compilation of the documents used for the execution and construction of this project, as well as the final model of Post-Graduate Studies that will be presented to the College of Postgraduate Studies of the Universidade Atlântica.

Índice

1. Anexos.....	1
1.1 Curso de Radiologia e Práticas Forenses (Brasil)	1
1.2 Teeside University: MSc Forensic Radiology	2
1.3 Teeside University: PgCert. Forensic Radiology	4
1.4 UCD Dublin: Professional Certificate In Non Accidental Injury	6
1.5 UCD Dublin: Professional Certificate Forensic Radiology.....	8
1.6 ASRT: Forensic Radiography Educational Framework	10
1.7 Curso de Pós-Graduação de Investigação Radiológica em Ciências Forenses	38

1. Anexos

1.1 Curso de Radiologia e Práticas Forenses (Brasil)

Curso de Radiologia e Práticas Forenses

Programa do Curso

- Anatomia patológica forense
- Imagem radiológica forense
- Tanatologia forense
- Química forense
- Toxicologia e morfologia forense
- Traumatologia forense
- Odontologia forense
- Perícia forense
- Técnicas radiológicas forenses
- Rotina de serviços radiológicos em forense
- Cadáveres em decomposição
- Abuso sobre criança e idoso
- Violência doméstica
- Sexologia forense

50 horas
Dias 16, 17, 18, 30 e 31 de Outubro e 01 de Novembro

MAIORES INFORMAÇÕES:
(85) 8792.7436 (Milton de Castro)
(85) 9986.0915 (Wagner Coelho)
Rua Teresa Cristina, 953 - Centro
Fone: (85) 3226.1752

LOCAL DO CURSO:
AUDITÓRIO DO CREMEC
Rua Floriano Peixoto, 2021 - Centro
Responsáveis:
Regina Yale - (85) 9991.0619

REALIZAÇÃO

CENTRO DE EDUCAÇÃO TÉCNICA E TECNOLÓGICA

INSCRIÇÕES:
MASTER CÓPIAS
Responsável:
Ana França - (85) 8832.9501

APOIO:



COORDENADORA DE MEDICINA LEGAL





ESCOLA TÉCNICA DE MARACÁ
(85) 3371.2582
Rua Belém, nº 40
Fátima - Maranhão/CE

1.2 Teesside University: MSc Forensic Radiology

© Teesside University: Postgraduate courses: MSc Forensic Radiography



Inspiring success



THE NEXT LEVEL
Postgraduate opportunities

Health & Social Care

MSc Forensic Radiography

Part-time	More information
<ul style="list-style-type: none">• Distance learning• 3 years• Enrolment date: September	<ul style="list-style-type: none">• Admission enquiries: 01642 384176• E: sohscadmissions@tees.ac.uk

MSc Forensic Radiography is the only course of its kind in the UK. Throughout this master's degree you learn about forensic imaging practice relevant to your department and the mass fatalities environment. You also improve your forensic examination skills in areas including non-accidental skeletal injury. By successfully completing your first year (PgCert) this ensures your forensic imaging competence in clinical radiology. In the second year (PgDip) you complete advanced study in the mass fatalities environment and a practice area of your choice. During your third year (MSc) you develop the research skills needed to contribute to the forensic imaging knowledge base.

This course enables you to:

- extend your knowledge and skills to an advanced level in forensic imaging practice that is relevant to a clinical radiology department and the emergency mortuary environment
- develop a critical understanding of the role of forensic imaging in the mass fatalities and emergency mortuary environment, and the clinical radiology environment
- enhance your knowledge and skills in systematically and critically evaluating research evidence
- develop a *comprehensive and critical understanding of primary and secondary research approaches, and designs to plan and manage a research project that meets ethical standards*
- achieve the intellectual and professional independence commensurate with mastery
- contribute to the forensic imaging practice knowledge base.

Modules

Year 1 core modules

- Medico-legal Issues in Forensic Imaging Practice
- Principles of Forensic Imaging

Year 2 core modules


- Designing Research Projects
- Forensic Imaging in Mass Fatalities
- Negotiated Learning in Forensic Imaging Practice

and one optional module

Year 3 core modules

- Dissertation

Modules offered may vary.



Page 1 of 3

Date printed from www.tees.ac.uk:
12/06/2015

Licenciatura em Radiologia

© Teesside University: Postgraduate courses: MSc Forensic Radiography

How you learn

Our distance learning approach means you never need to visit the University. Instead you use e-learning@tees, our virtual learning environment, and other online tools.

This course is carefully structured and highly interactive to ensure you are comfortable with the distance learning approach and stay on track throughout your studies. We also give you access to recognised forensic specialists and provide tools allowing you to easily socialise with peers.

The learning tools used in this course include podcasts, webinars, seminars, videos, recommended readings, interactive exercises, virtual workspace, quizzes, Skype, small group sessions and tutorials.

Regular evening webinars allow you to meet with peers, tutors and specialists online. Webinar dates are provided before the course starts and allow you to engage with activities when it's convenient for you. Through a courtroom simulation in the first year you learn how to give evidence and experience being cross-examined.

Your three-week induction starts in mid-September – this gives you time to get to know the virtual learning environment and electronic learning resources. It also introduces you to your peers and the programme content. During the induction you can choose to improve your writing skills by completing online workshops.

The distance learning approach is available to UK and international radiographers. It provides a global perspective on forensic imaging practice to broaden your intercultural awareness and understanding. By learning from various global incidents and critiquing papers from around the world on virtual autopsy, you heighten your awareness of cultural issues in relation to death.

To complete this course you need long-term access to a computer with the internet. You also need a (free) Skype account, webcam, and a headset and microphone.

How you are assessed

Assessments are designed to suit your area of practice in the form of electronically submitted written assignments.

Career opportunities

The Society and College of Radiographers advocates that radiographers undertaking forensic imaging examinations must be educated and trained at postgraduate level. This course addresses this. Successful completion of the course enhances your career as a practitioner with specialist forensic imaging skills.

Most advanced posts in the NHS require a master's degree. If you plan to become the lead radiographer for forensic imaging in your department, the advanced skills you develop in this course will give you an advantage.

Professional accreditation

This course is recognised by the Chartered Society of Forensic Sciences.



Entry requirements

You must be a registered radiographer and have an honours degree (2.2 or above) or be able to evidence your ability to study at postgraduate level. No forensic experience is required. International students are expected to demonstrate an IELTS score of 6.5. We interview all applicants.

For additional information please see the entry requirements in our [admissions section](#)

More information


- **WATCH** School of Health & Social care postgraduate study
Find out how studying health and social care at postgraduate level can boost your career opportunities and what Teesside University has to offer. (5 mins)
- **PgCert Forensic Radiography**
We also offer a PgCert Forensic Radiography
- **Health & Social Care**
More information and courses in Health & Social Care

Teesside University
Middlesbrough


T: +44 (0) 1642 342942
E: enquiries@tees.ac.uk

1.3 Teesside University: PgCert. Forensic Radiology

© Teesside University: Postgraduate courses: PgCert Forensic Radiography



Inspiring success



THE NEXT LEVEL
Postgraduate opportunities

Health & Social Care

PgCert Forensic Radiography

Part-time	More information
<ul style="list-style-type: none">• Distance learning• 1 year• Enrolment date: September	<ul style="list-style-type: none">• Admission enquiries: 01642 384176• E: sohscadmissions@tees.ac.uk

Are you a radiographer and want to learn about forensic imaging practice relevant to your department? Do you want to improve your forensic knowledge and skills when undertaking forensic examinations such as non-accidental injury skeletal surveys? Then this is the course for you.

This course:


- enables you to develop a critical understanding of the medico-legal aspects of forensic imaging practice
- extends your knowledge and skills to a specialist level in forensic imaging practice relevant to your own area of practice
- enables you to develop a critical understanding of the role of forensic imaging within the clinical environment.

Modules

Core modules

- Medico-legal Issues in Forensic Imaging Practice
- Principles of Forensic Imaging

Modules offered may vary.



What you study

Two modules ensure that you are fit for practice within the scope of forensic practice relevant to the needs of a clinical radiology department. The first is Medico-Legal Issues in Forensic Imaging Practice (Sept - Jan) and the second is Principles of Forensic Imaging (Jan - June). All sessions are facilitated by recognised specialists in the field of forensics, demonstrating the multi-disciplinary nature of forensic practice.

How you learn

With our distance learning approach you never need to attend the university. This might sound a scary prospect but this course is very structured, which keeps you on track throughout your studies. The three-week online induction at the start of the course gives you time to get to know the Virtual Learning Environment, learn what electronic learning resources are available to you, and introduces you to each other and the programme. You also have the opportunity to improve your writing skills with online workshops. So when the forensic topics start, you are ready to concentrate on the subject.

Page 1 of 2

Date printed from www.tees.ac.uk: 12/06/2015

Licenciatura em Radiologia

© Teesside University: Postgraduate courses: PgCert Forensic Radiography

What can distance learning offer me?

- Weekly contact with your tutor and peers via instant messaging or email.
- Topics delivered at a pace that gives you more time to learn about that area and relate this to your own practice.
- Structured activities to help you to think about each topic and discuss ideas with your peers.
- Sessions delivered by specialists in forensic practice using webinars (e.g. Coroner, Pathologist, Forensic Paediatrician, Paediatric Radiologist, Forensic Anthropologist, Forensic Biologist, Forensic Radiographer).
- Regular webinars where you and your peers join together online at the same time to engage in a teaching session with your tutor or other specialist.
- You don't need time off work – the webinars are on an evening (dates given before the course starts) and you can engage with the activities at a time that suits you each week.
- Courtroom simulation – learn how to give evidence and experience being cross-examined.

The course is available to UK and International radiographers and provides you with a global perspective on aspects of forensic imaging practice as well as broadening your intercultural awareness and understanding. You critique papers from around the world on virtual autopsy, and heighten your awareness of the diverse cultural issues in relation to death and how the deceased are dealt with. You learn from various incidents across the globe that have contributed to how identification of the deceased is achieved today.

You need to have prolonged access to a recent multi-media computer (PC or Mac) with internet broadband connection and suitable internet browser, Skype account (free), webcam and headset and microphone.

How you are assessed

Assessments are relevant to your area of practice and are written assignments submitted electronically.

Professional accreditation

This course has received Recognition from the Chartered Society of Forensic Sciences.



Career opportunities

The College of Radiographers advocates that all radiographers who undertake forensic imaging examinations must be appropriately educated and trained in all aspects of forensic practice. This course addresses this and successful completion of the course enhances your career as a practitioner with specialist forensic imaging skills.

MSc Forensic Radiography – we also offer an MSc Forensic Radiography

Entry requirements

Applicants should be registered radiographers and have an honours degree (2.2 or above) or be able to provide evidence of the ability to work at postgraduate level. No forensic experience is required. International students are required to demonstrate an IELTS Score of 6.5 at time of application. Applicants are interviewed.


[View the international entry requirements](#)

More information

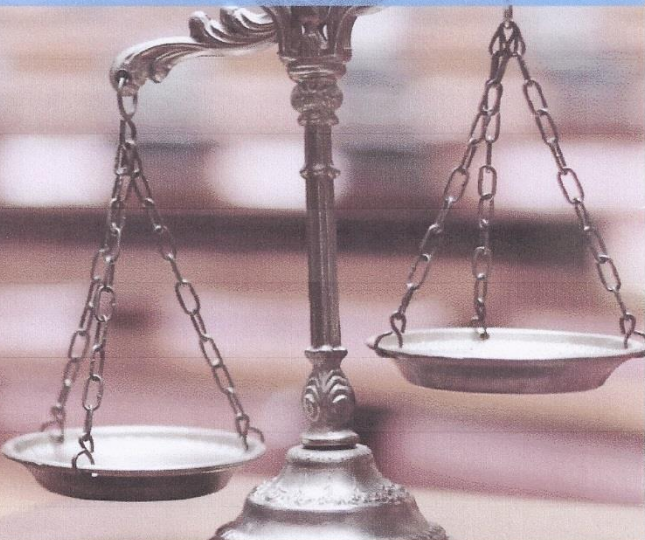
- **WATCH** School of Health & Social care postgraduate study
Find out how studying health and social care at postgraduate level can boost your career opportunities and what Teesside University has to offer. (5 mins)
- **MSc Forensic Radiography**
We also offer an MSc Forensic Radiography
- **Health & Social Care**
More information and courses in Health & Social Care

Teesside University Middlesbrough Tees Valley TS1 3BA UK	T: +44 (0) 1642 342942 E: enquiries@tees.ac.uk www.tees.ac.uk
---	---

1.4 UCD Dublin: Professional Certificate In Non Accidental Injury




UCD School of Medicine and Medical Science



Professional Certificate In Non Accidental Injury

COURSE FEATURES		COURSE DETAILS	
<p>Only University Accredited Course of its kind in Ireland.</p> <p>Non Accidental Injury confronts health care and associated professionals on a daily basis. It is with this focus that "Non-Accidental Injury – a collaborative approach" has been developed. This course gives a fuller understanding of a professionals' role within the multi-disciplinary team that may be involved in these cases.</p> <p>The professional certificate has been designed with a blended learning approach: one on-site taught day (Saturday 25th January) and flexible release online learning in order to facilitate a reasoned work / life balance for applicants.</p>		Major code	X671
		Duration	1 Semester
		Schedule	Part-Time
		Next intake	January annually



WHO SHOULD TAKE THIS COURSE?

This professional development professional certificate is open to all health care and associated professionals dealing with paediatric patients. It is specifically targeting those who are interested in widening their inter-disciplinary knowledge around roles and responsibilities in the area of non-accidental injury and police cases.

Applicants should normally possess at least one year post-qualification experience.



COURSE DESCRIPTION

SKILLS AND KNOWLEDGE

This 5 credit professional development professional certificate in Non-Accidental Injury aims to develop and re-enforce skills and knowledge to better understand the complementary roles and responsibilities that exist along any paediatric forensic pathway. This course has been designed to provide theoretical background with a significant emphasis on clinical experience and relevance.

EXPERIENCE

Participants will continue to gain their experience in their own professional environments.

TEACHING & LEARNING

Throughout this professional certificate participants will profit from a blended learning approach integrating formal lecture attendance alongside discussion, tutorials and e-Learning as well as self-directed learning. The teaching and learning strategies are designed to encourage autonomous reflective practitioners who can further develop their personal and professional skills within a supportive framework.

ABOUT UCD DIAGNOSTIC IMAGING

UCD is an internationally recognised centre of excellence for Diagnostic Imaging. The School of Medicine & Medical Science offers an extensive portfolio of graduate taught courses, which cater to a diverse range of healthcare professionals. For more information visit www.ucd.ie/medicine



Kevin Barry Memorial Window,
UCD Charles Institute of Dermatology

ENTRY REQUIREMENTS

Applicants should normally possess at least one year post-qualification experience.

Applicants should be working in their profession.

FEES

Please check www.ucd.ie/fees

The IIRRT will provide a refund of €200 on the Non-Accidental Injury course fee to the first 8 Radiographers or Radiation Therapists working in the HSE who apply for a refund. This is open to IIRRT members and non-members.




CONTACT

Administrator – Diagnostic Imaging
Email: graduate.imaging@ucd.ie
Tel: +353 1 716 6545


More information on this course:
www.ucd.ie/medicine

Apply for this course:
www.ucd.ie/apply

1.5 UCD Dublin: Professional Certificate Forensic Radiology



UCD School of Medicine and Medical Science



**Professional Certificate
Forensic Radiography**

COURSE FEATURES

Enables radiographers and forensic professionals to develop the knowledge and skills necessary to optimise the use of radiography in forensic investigations.

Blended learning approach combining theoretical sessions with hands-on practical sessions and small group discussion sessions.

Sessions facilitated by specialists in the field of forensics, demonstrating the multidisciplinary nature of forensic practice.

WHO SHOULD TAKE THIS COURSE?

This course is aimed at practising radiographers with varying levels of forensic radiography experience, as well as non-radiography forensic professionals who wish to broaden their knowledge and understanding of forensic radiography and related issues.

It may also act as an entry level module for further studies up to Masters level or for research in forensic imaging.

COURSE DETAILS

Major code	X386
Duration	4 months
Schedule	Part-Time
Next intake	January annually

An excellent concise overview of important aspects associated with providing a forensic imaging service.

- Edel Dempsey
Radiographer, Tallaght Hospital

COURSE DESCRIPTION

BUILDS EXPERTISE

This course develops knowledge, expertise and skills in the practice – legal and professional – of forensic radiography.

The focus will be on the history and role of forensic radiography in forensic medicine and science, an introduction to medico-legal aspects of forensic radiography, practical approaches and issues in forensic radiography, roles and responsibilities, injury processes and pathologies, and an introduction to developments in forensic radiography.

PRACTICAL APPLICATION

The role and responsibilities of the radiographer, together with evidence-based, safe and legal practice is emphasised throughout.

Students are provided with a set of skills that will allow them to develop or to enhance an existing forensic imaging service.

COURSE ELEMENTS

As part of this course, students will undertake a combination of elements that includes:

Lecture attendance

Practical demonstrations

Small group sessions

Online learning

Practical workshops

This certificate course is taught over five days, spread over three separate weeks.

ABOUT UCD DIAGNOSTIC IMAGING

UCD is an internationally recognised centre of excellence for Diagnostic Imaging. The School of Medicine & Medical Science offers an extensive portfolio of graduate taught courses, which cater to a diverse range of healthcare professionals. For more information visit www.ucd.ie/medicine



CONTACT

Administrator – Diagnostic Imaging
Email: graduate.imaging@ucd.ie
Tel: + 353 1 716 6545



Communal Area at UCD Restaurant

ENTRY REQUIREMENTS

BSc in Radiography/Diagnostic Imaging or equivalent

One year of post-qualification experience in Radiography/Diagnostic Imaging or other forensic discipline is required

FEES

Please check www.ucd.ie/fees

The IIRRT will provide a refund of €200 on the Forensic Radiography course fee to the first 8 Radiographers or Radiation Therapists working in the HSE who apply for a refund. This is open to IIRRT members and non-members.

More information on this course:
www.ucd.ie/medicine

Apply for this course:
www.ucd.ie/apply

1.6 ASRT: Forensic Radiography Educational Framework

Forensic Radiography Educational Framework

*Sponsored by the American Society of Radiologic Technologists, 15000 Central Ave. SE,
Albuquerque, NM 87123-3909.*

*©Copyright 2010, by the American Society of Radiologic Technologists. All rights reserved. The
ASRT prohibits reprinting all or part of this document without advance written permission
granted by this organization. Send reprint requests to the ASRT Education Department at the
above address.*

Introduction

Conducting examinations that use ionizing radiation to gather and analyze forensic evidence constitutes forensic radiography, an academic and scientific discipline. In 2007, the ASRT convened a task force to discuss and investigate the state of forensic radiography in the United States and the role of the professional organization in improving the quality of forensic imaging.

This educational framework is a result of the task force's work. It was developed by a committee of educators and forensic radiology practitioners to ensure safe and quality practice of forensic radiography. The committee recognized that personnel performing forensic radiology examinations follow three basic paths; this framework is designed to complement each of those paths:

1. Registered technologist.
2. Limited x-ray machine operator, or LXMO.
3. Forensic assistant (usually assistant to a forensic pathologist or medical examiner; for the purposes of this document, this term also is used to refer to any personnel in medical examiner and coroner offices or forensic laboratories, including morgue assistants, laboratory clerks and pathologists).

Although forensic assistants perform imaging tasks within a limited scope, the developers of the educational framework believe that the knowledge and cognitive skills underlying the safe and accurate performance of the forensic radiography examination must be equivalent to that of the registered technologist. Operation of equipment that emits ionizing radiation presents concerns regarding safety of operators and personnel near the equipment, as well as quality assurance issues, regardless of the equipment's purpose. The content is designed with special attention to proper radiation protection and production of quality images. Image quality not only is important to producing credible evidence in criminal and civil cases, but for comparing postmortem images to antemortem images in cases of autopsy and identification.

The framework also provides educational content for radiographers to gain knowledge specific to forensic sciences, such as law, evidence collection and administrative proceedings. At any given

Licenciatura em Radiologia

time, a radiologic technologist practicing in a hospital or imaging center may perform a forensic examination. The nature of a patient's injuries and circumstances mean that the examination findings may be critical legal evidence. The framework helps LXMOs identify skills gaps in radiography and forensics.

The educational framework committee acknowledged that each individual will require varying amounts and types of additional education, depending on his or her background, skills and experience. The gap analysis provides the opportunity to identify educational needs for professionals in each of the three basic paths. Check marks indicate elements associated with forensic radiography that are present in existing curriculum documents and/or found in existing educational programs of the specialties indicated. Elements that are not checked for a given specialty are intended as a guide for the development of educational pathways (see the example below).

Radiation Protection	R.T.	LXMO	F.A.
I. Introduction			
A. Justification for radiation protection	☑	☑	
B. Potential biologic damage of ionizing radiation	☑	☑	
C. Objectives of a radiation protection program	☑	☑	
D. Sources of radiation	☑	☑	
E. Legal and ethical responsibilities	☑	☑	

Proposed minimum hours of didactic instruction and clinical experience have been included as guidelines to assist in program planning. Faculty members are encouraged to expand and broaden these fundamental objectives as they incorporate them into their curricula. Specific instructional methods, course level, course length and number of courses or units intentionally were omitted to allow for programmatic prerogative as well as creativity in instructional delivery. Resources are included to assist faculty members in program planning.

Table of Contents

Gap Analysis.....	1
Digital Image Acquisition and Display	1
Film-screen Image Production and Evaluation	1
Fluoroscopic Unit Operation and Safety	5
Fundamentals, Ethics and Law of Health Care	7
Human Structure and Function.....	9
Imaging Equipment and Radiation Production	10
Legal Proceedings	12
Medical Terminology	12
Patient Care in Forensic Science	13
Principles of Computed Tomography (CT).....	14
Radiation Biology.....	17
Radiation Protection	18
Radiographic Procedures of the Forensic Assistant	19
Scope of Forensic Radiology.....	21
Descriptions	22
Digital Image Acquisition and Display	22
Film-screen Image Production and Evaluation	22
Fluoroscopic Unit Operation and Safety	22
Fundamentals, Ethics and Law of Health Care	22
Human Structure and Function.....	22
Imaging Equipment and Radiation Production	23
Medical Terminology	23
Patient Care in Forensic Science	23
Principles of Computed Tomography (CT).....	23
Radiation Biology.....	23
Radiation Protection	24
Radiographic Procedures of the Forensic Assistant	24
Resources	25

Gap Analysis

Digital Image Acquisition and Display	R.T.	LXMO	F.A.
I. Basic Principles of Digital Radiography			
A. Digital image characteristics	<input checked="" type="checkbox"/>		
B. Digital receptors	<input checked="" type="checkbox"/>		
II. Image Acquisition Errors			
A. Scatter control	<input checked="" type="checkbox"/>		
III. Fundamental Principles of Exposure			
A. Optimal receptor exposure	<input checked="" type="checkbox"/>		
B. Receptor response – detective quantum efficiency (DQE)	<input checked="" type="checkbox"/>		
C. Control patient exposure	<input checked="" type="checkbox"/>		
D. Monitor patient exposure	<input checked="" type="checkbox"/>		
IV. Image Evaluation			
A. Exposure level	<input checked="" type="checkbox"/>		
B. Contrast	<input checked="" type="checkbox"/>		
C. Recorded detail	<input checked="" type="checkbox"/>		
D. Artifacts	<input checked="" type="checkbox"/>		
V. PACS	<input checked="" type="checkbox"/>		
A. Terminology	<input checked="" type="checkbox"/>		
B. System components and function	<input checked="" type="checkbox"/>		
C. Digital imaging in communications and medicine (DICOM)	<input checked="" type="checkbox"/>		
Film-screen Image Production and Evaluation			
I. Imaging Quality Standards			
A. Pathologist's involvement in setting image standards	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Care and security of evidence concerns	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Procedures for maintaining image standards	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Check marks indicate elements of forensic radiography in existing curricula or existing educational programs of the designated specialty. Unchecked elements for a given specialty are intended to guide in developing educational pathways. R.T., radiologic technologist; LXMO, limited x-ray machine operator; F.A., forensic assistant.			

1

©Copyright 2010, by the American Society of Radiologic Technologists. All rights reserved.

Licenciatura em Radiologia

	R.T.	LXMO	F.A.
II. Radiographic Density			
A. Definition	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Acceptable range	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Factors	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
III. Radiographic Contrast			
A. Definition	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Types	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Components	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
D. Factors	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
IV. Recorded Detail			
A. Definition	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Components	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Factors	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
V. Distortion			
A. Definition	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Types	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Factors	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
VI. Exposure Latitude			
A. Definition	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Factors	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
VII. Beam-limiting Devices			
A. Definition	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Purposes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Types, function and application of each	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
VIII. Beam Filtration			
A. Definition	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Rationale	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Composition	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Check marks indicate elements of forensic radiography in existing curricula or existing educational programs of the designated specialty. Unchecked elements for a given specialty are intended to guide in developing educational pathways. R.T., radiologic technologist; LXMO, limited x-ray machine operator; F.A., forensic assistant.			

	R.T.	LXMO	F.A.
D. Types	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
E. Image quality	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
F. Patient exposure	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
IX. Scattered and Secondary Radiation			
A. Definitions	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Factors	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Effects	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
X. Control of Exit/Remnant Radiation			
A. kVp selection	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Grids	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
XI. Technique Formulation			
A. Purpose	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Considerations	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Types	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
XII. Exposure Calculations			
A. Factors	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Calculations	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
XIII. Image Receptor Handling and Storage			
A. Processing considerations	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Storage considerations	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
XIV. Characteristics of Image Receptors			
A. Film Types	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Composition	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Definition, influence and application of image receptor properties	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
D. Digital systems	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
E. Characteristic curves	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Check marks indicate elements of forensic radiography in existing curricula or existing educational programs of the designated specialty. Unchecked elements for a given specialty are intended to guide in developing educational pathways. R.T., radiologic technologist; LXMO, limited x-ray machine operator; F.A., forensic assistant.			

	R.T.	LXMO	F.A.
XV. Image Receptor Holders and Intensifying Screens			
A. Image receptor holders	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Intensifying screens	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
XVI. Processing of the Images			
A. Darkroom lighting	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Processor systems/functions	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Processing cycle	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
D. Maintenance/cleaning	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
XVII. Digital Processing			
A. Algorithms	<input checked="" type="checkbox"/>		
B. Histograms	<input checked="" type="checkbox"/>		
C. Resolution	<input checked="" type="checkbox"/>		
D. Postprocessing	<input checked="" type="checkbox"/>		
E. Exposure indicator (patient dose)	<input checked="" type="checkbox"/>		
VIII. Artifacts			
A. Definition	<input checked="" type="checkbox"/>		
B. Types	<input checked="" type="checkbox"/>		
C. Causes	<input checked="" type="checkbox"/>		
D. Effects	<input checked="" type="checkbox"/>		
E. Preventive/corrective maintenance	<input checked="" type="checkbox"/>		
XIX. Imaging Standards			
A. Purpose	<input checked="" type="checkbox"/>		
B. Problem-solving process	<input checked="" type="checkbox"/>		
C. Establishing acceptable limits	<input checked="" type="checkbox"/>		
XX. Image Quality Factors			
A. Density	<input checked="" type="checkbox"/>		
B. Contrast	<input checked="" type="checkbox"/>		
C. Recorded detail	<input checked="" type="checkbox"/>		
D. Distortion	<input checked="" type="checkbox"/>		
Check marks indicate elements of forensic radiography in existing curricula or existing educational programs of the designated specialty. Unchecked elements for a given specialty are intended to guide in developing educational pathways. R.T., radiologic technologist; LXMO, limited x-ray machine operator; F.A., forensic assistant.			

	R.T.	LXMO	F.A.
E. Automatic exposure control	<input checked="" type="checkbox"/>		
F. Processing	<input checked="" type="checkbox"/>		
G. Computed radiography (CR)	<input checked="" type="checkbox"/>		
H. Digital radiography (DR)	<input checked="" type="checkbox"/>		
XXI. Procedural Factors			
A. Image identification	<input checked="" type="checkbox"/>		
B. Positioning	<input checked="" type="checkbox"/>		
C. Centering	<input checked="" type="checkbox"/>		
D. Radiation protection	<input checked="" type="checkbox"/>		
E. Patient preparation	<input checked="" type="checkbox"/>		
F. Artifacts	<input checked="" type="checkbox"/>		
XII. Corrective Action			
A. Equipment	<input checked="" type="checkbox"/>		
B. Technical factors	<input checked="" type="checkbox"/>		
C. Procedural factors	<input checked="" type="checkbox"/>		
D. Artifacts	<input checked="" type="checkbox"/>		
Fluoroscopic Unit Operation and Safety			
I. X-ray Tubes			
A. Construction	<input checked="" type="checkbox"/>		
B. Extending tube life	<input checked="" type="checkbox"/>		
II. Components of the Fixed Fluoroscopic Unit			
A. Table	<input checked="" type="checkbox"/>		
B. Radiation source	<input checked="" type="checkbox"/>		
C. Image intensifier carriage	<input checked="" type="checkbox"/>		
D. Image intensifier construction	<input checked="" type="checkbox"/>		
E. Intensification principles/characteristics	<input checked="" type="checkbox"/>		
<small>Check marks indicate elements of forensic radiography in existing curricula or existing educational programs of the designated specialty. Unchecked elements for a given specialty are intended to guide in developing educational pathways. R.T., radiologic technologist; LXMO, limited x-ray machine operator; F.A., forensic assistant.</small>			

	R.T.	LXMO	F.A.
F. Viewing and recording systems	<input checked="" type="checkbox"/>		
G. Digital fluoroscopy	<input checked="" type="checkbox"/>		
III. Components of the Mobile Fluoroscopic Unit			
A. Control panel	<input checked="" type="checkbox"/>		
B. Radiation source	<input checked="" type="checkbox"/>		
C. Image intensifier/ flat panel detector	<input checked="" type="checkbox"/>		
D. Optics system	<input checked="" type="checkbox"/>		
E. Video interface	<input checked="" type="checkbox"/>		
F. Locks and angle indicators	<input checked="" type="checkbox"/>		
G. Equipment provisions	<input checked="" type="checkbox"/>		
H. Limiting the use of "high level control" or "boost position" during fluoroscopy	<input checked="" type="checkbox"/>		
I. Personnel monitoring of radiation exposure	<input checked="" type="checkbox"/>		
IV. Technical Factors Affecting the Radiation Dose Rate for Patients and Operators			
A. Direct factors	<input checked="" type="checkbox"/>		
B. Indirect factors	<input checked="" type="checkbox"/>		
C. Patient and/or operator dose reducers	<input checked="" type="checkbox"/>		
D. Image intensifiers and flat panel detectors	<input checked="" type="checkbox"/>		
V. Operator Controls of the Fluoroscopic Unit			
A. Control panel setting(s) for fluoroscopy vs. dose	<input checked="" type="checkbox"/>		
B. Collimator control	<input checked="" type="checkbox"/>		
C. Compression devices	<input checked="" type="checkbox"/>		
D. Fluoro grid device	<input checked="" type="checkbox"/>		
E. Exposure switch(es)	<input checked="" type="checkbox"/>		
F. Spot film device	<input checked="" type="checkbox"/>		
<small>Check marks indicate elements of forensic radiography in existing curricula or existing educational programs of the designated specialty. Unchecked elements for a given specialty are intended to guide in developing educational pathways. R.T., radiologic technologist; LXMO, limited x-ray machine operator; F.A., forensic assistant.</small>			

Licenciatura em Radiologia

	R.T.	LXMO	F.A.
VI. Personnel Protection			
A. Personnel radiation protection	<input checked="" type="checkbox"/>		
B. Protective apparel and accessories	<input checked="" type="checkbox"/>		
C. Other safety hazards	<input checked="" type="checkbox"/>		
Fundamentals, Ethics and Law of Health Care			
I. The Health Science Professions			
A. Radiologic technology	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Health care professions	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
II. The Health Care Environment			
A. Health care systems	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Health care delivery settings	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Payment/reimbursement systems	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
III. Facility Organization			
A. Philosophy and mission	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Administrative services	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Medical services	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
IV. Radiology Organization			
A. Professional personnel	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Support personnel	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Patient services	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
V. Accreditation			
A. Definition	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Institution accreditation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Programmatic accreditation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
VI. Professional Credentialing			
A. Definition	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Agencies	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Check marks indicate elements of forensic radiography in existing curricula or existing educational programs of the designated specialty. Unchecked elements for a given specialty are intended to guide in developing educational pathways. R.T., radiologic technologist; LXMO, limited x-ray machine operator; F.A., forensic assistant.			

	R.T.	LXMO	F.A.
VII. Professional Organizations			
A. Purpose, function, activities	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Local organizations	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. State organizations	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
D. National	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
E. International	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
F. Related associations, organizations	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
VIII. Professional Development			
A. Methods of advancement	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Employment considerations	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Additional career ladders	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
D. Continuing education and competency requirements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
IX. Ethics in Health Care			
A. Moral reasoning	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Personal behavior standards	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Competence	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
D. Professional attributes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
E. Limited scope of practice defined	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
F. Self-assessment and self-governance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
G. Continuing professional education	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
H. Professional standards of clinical practice	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
I. Code of professional ethics	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
J. Ethical principles	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
K. Organizational ethics	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
L. Individual and societal rights	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
M. Autonomy vs. behavior control	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
N. Medical/health care research	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
O. Ethical decision making	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Check marks indicate elements of forensic radiography in existing curricula or existing educational programs of the designated specialty. Unchecked elements for a given specialty are intended to guide in developing educational pathways. R.T., radiologic technologist; LXMO, limited x-ray machine operator; F.A., forensic assistant.			

	R.T.	LXMO	F.A.
X. Legal Responsibilities			
A. Parameters of legal responsibility	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Scope of practice and responsibilities of the forensic assistant	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Human Structure and Function			
I. Anatomical Nomenclature			
A. Terms of direction	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Body planes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Body cavities – structural limits, function, contents	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
II. Landmarks and Underlying Anatomy			
A. Cranium	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Neck	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Spine	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
D. Thorax	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
E. Abdomen	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
F. Pelvis	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
G. Extremities	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
III. Skeletal System			
A. Osseous tissue	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Divisions	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Articulations	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
IV. Cardiovascular System			
A. Blood	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Heart and vessels	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
V. Respiratory System			
A. Components and structure	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Physiology	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Check marks indicate elements of forensic radiography in existing curricula or existing educational programs of the designated specialty. Unchecked elements for a given specialty are intended to guide in developing educational pathways. R.T., radiologic technologist; LXMO, limited x-ray machine operator; F.A., forensic assistant.			

	R.T.	LXMO	F.A.
VI. Abdomen			
A. Digestive system	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Urinary system – structure, function and location	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Reproductive systems – structure, function and location	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
VII. Muscular System – Types, Characteristics and Functions			
A. Smooth	<input checked="" type="checkbox"/>		
B. Cardiac	<input checked="" type="checkbox"/>		
C. Skeletal	<input checked="" type="checkbox"/>		
VIII. Nervous System			
A. Introduction	<input checked="" type="checkbox"/>		
B. Neural tissue	<input checked="" type="checkbox"/>		
C. Anatomy, functions	<input checked="" type="checkbox"/>		
Imaging Equipment and Radiation Production			
I. X-ray Circuit			
A. Electricity	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Protective devices	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Transformers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
D. Rectification	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
II. Radiographic Equipment			
A. Permanent installation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. AEC devices	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
III. Diagnostic X-ray Tubes			
A. Design and function	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Extending tube life	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Check marks indicate elements of forensic radiography in existing curricula or existing educational programs of the designated specialty. Unchecked elements for a given specialty are intended to guide in developing educational pathways. R.T., radiologic technologist; LXMO, limited x-ray machine operator; F.A., forensic assistant.			

	R.T.	LXMO	F.A.
IV. Electronic Imaging			
A. Purpose	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Principles	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Flat panel detectors	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
V. Quality Control			
A. Definitions	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Benefits	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
VI. Structure of the Atom			
A. Nucleus	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Structure	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Electron shells	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
VII. Nature of Radiation			
A. Natural background radiation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Artificial radiation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
VIII. X-ray Production			
A. Historical introduction	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Principles	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Types	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
D. Common terms related to the x-ray beam	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
E. Conditions necessary for production	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
F. X-ray emission spectra	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
G. Factors affecting emission spectra	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
H. Efficiency in production	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
IX. Interaction of Photons With Matter			
A. Transmission of photons	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Unmodified scattering (coherent)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Photoelectric effect	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
D. Modified scattering (Compton)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Check marks indicate elements of forensic radiography in existing curricula or existing educational programs of the designated specialty. Unchecked elements for a given specialty are intended to guide in developing educational pathways. R.T., radiologic technologist; LXMO, limited x-ray machine operator; F.A., forensic assistant.			

	R.T.	LXMO	F.A.
Legal Proceedings			
I. Admissibility of Scientific Evidence			<input checked="" type="checkbox"/>
II. Federal Rules of Evidence			<input checked="" type="checkbox"/>
III. The Expert Witness			<input checked="" type="checkbox"/>
IV. Discovery and Deposition			<input checked="" type="checkbox"/>
V. Testimony in Court			<input checked="" type="checkbox"/>
VI. Admissibility of Radiological Images and Results			<input checked="" type="checkbox"/>
Medical Terminology			
I. The Word-building Process			
A. Basic elements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Parts of speech	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Translation of terms into common language	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
D. Correct pronunciation of medical terms	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
II. Medical Abbreviations and Symbols			
A. Role in communications	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Abbreviations	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Symbols	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
III. Radiologic Technology Procedures and Terminology			
A. Radiography	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Radiation oncology	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Nuclear medicine	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
D. Sonography	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<small>Check marks indicate elements of forensic radiography in existing curricula or existing educational programs of the designated specialty. Unchecked elements for a given specialty are intended to guide in developing educational pathways. R.T., radiologic technologist; LXMO, limited x-ray machine operator; F.A., forensic assistant.</small>			

	R.T.	LXMO	F.A.
IX. Understanding Orders, Requests and Diagnostic Reports			
A. Radiographic orders and requisitions – components	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Diagnostic reports	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Patient Care in Forensic Science			
I. Forensic Assistants and Health Care Team			
A. Responsibilities of the health care facility	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B. Responsibilities of the forensic assistant			<input checked="" type="checkbox"/>
II. Attitudes and Communication in Patient Care			
A. Health-illness continuum	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Age-specific communication	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Communication	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
D. Psychological considerations	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
III. Patient/Forensic Assistant Interactions			
A. Patient identification methods	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
IV. Safety and Transfer Positioning			
A. Environmental safety	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Body mechanics	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Patient transfer and movement	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
D. Patient positions	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
E. Immobilization techniques	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
F. Accident and incident reporting	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
V. Patient Records			
A. Aspects of patient records	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B. Confidentiality of patient information	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
C. Retrieving specific information	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Check marks indicate elements of forensic radiography in existing curricula or existing educational programs of the designated specialty. Unchecked elements for a given specialty are intended to guide in developing educational pathways. R.T., radiologic technologist; LXMO, limited x-ray machine operator; F.A., forensic assistant.			

	R.T.	LXMO	F.A.
D. Proper documentation in patient record	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E. Health Insurance Portability and Accountability Act (HIPAA)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
VI. Infection Control			
A. Terminology	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Centers for Disease Control and Prevention (CDC)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Cycle of infection	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
D. Preventing disease transmission	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
E. Medical asepsis	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
F. Environmental asepsis	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
G. Standard precautions	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
VII. Values			
A. Personal	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Professional	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
VIII. Culture, Ethnicity and Diversity			
A. Societal and individual factors	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Principles of Computed Tomography (CT)			
I. Radiation Protection			
A. Personal protection and monitoring	<input checked="" type="checkbox"/>		
B. Area/facilities monitoring	<input checked="" type="checkbox"/>		
C. Medical events	<input checked="" type="checkbox"/>		
II. The CT Computer			
A. Hardware	<input checked="" type="checkbox"/>		
B. Data acquisition system	<input checked="" type="checkbox"/>		
C. Software	<input checked="" type="checkbox"/>		
D. Algorithms	<input checked="" type="checkbox"/>		
E. Postprocessing techniques	<input checked="" type="checkbox"/>		
Check marks indicate elements of forensic radiography in existing curricula or existing educational programs of the designated specialty. Unchecked elements for a given specialty are intended to guide in developing educational pathways. R.T., radiologic technologist; LXMO, limited x-ray machine operator; F.A., forensic assistant.			

	R.T.	LXMO	F.A.
F. Keyboard orientation	<input checked="" type="checkbox"/>		
G. Peripheral device orientation	<input checked="" type="checkbox"/>		
H. Image display, manipulation, recording and archiving	<input checked="" type="checkbox"/>		
III. Image Quality in CT			
A. Definition	<input checked="" type="checkbox"/>		
B. Determinants	<input checked="" type="checkbox"/>		
C. Influencing factors	<input checked="" type="checkbox"/>		
D. Measurements	<input checked="" type="checkbox"/>		
E. Quality control programs in CT	<input checked="" type="checkbox"/>		
IV. Computed Tomography Process			
A. Single-slice scanners	<input checked="" type="checkbox"/>		
B. Multislice scanners	<input checked="" type="checkbox"/>		
C. Spiral scanners	<input checked="" type="checkbox"/>		
D. Electron beam scanners	<input checked="" type="checkbox"/>		
V. Spiral Computed Tomography			
A. Definition	<input checked="" type="checkbox"/>		
B. Scanner design	<input checked="" type="checkbox"/>		
C. Composite and wire brush scanners	<input checked="" type="checkbox"/>		
VI. Physics/Instrumentation (System Operation and Components)			
A. Selectable scan factors	<input checked="" type="checkbox"/>		
B. Data management	<input checked="" type="checkbox"/>		
C. Image quality	<input checked="" type="checkbox"/>		
VII. CT, Applied Terminology			
A. Pixel	<input checked="" type="checkbox"/>		
B. Matrix	<input checked="" type="checkbox"/>		
C. Voxel	<input checked="" type="checkbox"/>		
Check marks indicate elements of forensic radiography in existing curricula or existing educational programs of the designated specialty. Unchecked elements for a given specialty are intended to guide in developing educational pathways. R.T., radiologic technologist; LXMO, limited x-ray machine operator; F.A., forensic assistant.			

	R.T.	LXMO	F.A.
D. X, y, z coordinates	<input checked="" type="checkbox"/>		
E. Scan field of view (SFOV)	<input checked="" type="checkbox"/>		
F. Display field of view (DFOV)	<input checked="" type="checkbox"/>		
G. Linear attenuation coefficient	<input checked="" type="checkbox"/>		
H. CT/Hounsfield number	<input checked="" type="checkbox"/>		
I. Partial volume averaging	<input checked="" type="checkbox"/>		
J. Window width (WW) and window level (WL)	<input checked="" type="checkbox"/>		
K. Spatial resolution	<input checked="" type="checkbox"/>		
L. Contrast resolution	<input checked="" type="checkbox"/>		
M. Noise aliasing	<input checked="" type="checkbox"/>		
N. Digital imaging	<input checked="" type="checkbox"/>		
O. Annotation	<input checked="" type="checkbox"/>		
P. Scanogram	<input checked="" type="checkbox"/>		
Q. Region of interest (ROI)	<input checked="" type="checkbox"/>		
R. Standard vs. volumetric data acquisition	<input checked="" type="checkbox"/>		
S. Half-scan, full-scan, overscan	<input checked="" type="checkbox"/>		
T. Interscan delay	<input checked="" type="checkbox"/>		
U. Rays and views	<input checked="" type="checkbox"/>		
V. Sampling (angular and ray)	<input checked="" type="checkbox"/>		
VIII. Cross-sectional Anatomy (Multiplane) With Pathologic Correlation			
A. Head	<input checked="" type="checkbox"/>		
B. Neck	<input checked="" type="checkbox"/>		
C. Spine	<input checked="" type="checkbox"/>		
D. Thorax	<input checked="" type="checkbox"/>		
E. Abdomen	<input checked="" type="checkbox"/>		
F. Pelvis	<input checked="" type="checkbox"/>		
<small>Check marks indicate elements of forensic radiography in existing curricula or existing educational programs of the designated specialty. Unchecked elements for a given specialty are intended to guide in developing educational pathways. R.T., radiologic technologist; LXMO, limited x-ray machine operator; F.A., forensic assistant.</small>			

	R.T.	LXMO	F.A.
IX. Procedures Protocol			
A. Indicators for specific protocols	<input checked="" type="checkbox"/>		
B. Contraindications for specific protocol	<input checked="" type="checkbox"/>		
C. Indications for contrast media	<input checked="" type="checkbox"/>		
D. Contraindications to the use of contrast media	<input checked="" type="checkbox"/>		
E. Patient preparation	<input checked="" type="checkbox"/>		
F. Charting	<input checked="" type="checkbox"/>		
G. Protocol parameters	<input checked="" type="checkbox"/>		
X. Procedures (CT)			
A. Head	<input checked="" type="checkbox"/>		
B. Neck	<input checked="" type="checkbox"/>		
C. Spine	<input checked="" type="checkbox"/>		
D. Thorax	<input checked="" type="checkbox"/>		
E. Abdomen	<input checked="" type="checkbox"/>		
F. Pelvis	<input checked="" type="checkbox"/>		
Radiation Biology			
I. Introduction			
A. Molecule	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Review of cell biology	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Types of ionizing radiations	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
II. Biophysical Events			
A. Molecular effects of radiation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. The deposition of radiant energy	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
III. Radiation Effects			
A. Subcellular radiation effects	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Cellular radiation effects	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Individual radiation effects	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
D. Factors influencing radiation response	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Check marks indicate elements of forensic radiography in existing curricula or existing educational programs of the designated specialty. Unchecked elements for a given specialty are intended to guide in developing educational pathways. R.T., radiologic technologist; LXMO, limited x-ray machine operator; F.A., forensic assistant.			

	R.T.	LXMO	F.A.
IV. Radiosensitivity and Response			
A. Law of Bergonié and Tribondeau	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Cell survival and recovery	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Systemic response to radiation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
D. Radiation dose-response curves	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
E. Total body irradiation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
F. Late effects of radiation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
G. Risk estimates	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Radiation Protection			
I. Introduction			
A. Justification for radiation protection	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Potential biologic damage of ionizing radiation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Objectives of a radiation protection program	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
D. Sources of radiation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
E. Legal and ethical responsibilities	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
II. Units, Detection and Measurement			
A. Radiation units	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Dose reporting	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
III. Personnel Monitoring			
A. Historical perspective	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Requirements for personnel monitoring	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Methods and types of personnel monitors	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
D. Records of accumulated dose	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
E. Dose limits – 10 CFR part 20	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
F. Responsibilities for radiation protection	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
IV. Application			
A. Design	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Regulations and recommendations	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Check marks indicate elements of forensic radiography in existing curricula or existing educational programs of the designated specialty. Unchecked elements for a given specialty are intended to guide in developing educational pathways. R.T., radiologic technologist; LXMO, limited x-ray machine operator; F.A., forensic assistant.			

	R.T.	LXMO	F.A.
C. Cardinal principles in protection	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
D. Emergency procedures	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Radiographic Procedures of the Forensic Assistant			
I. Standard Terminology for Positioning and Projection			
A. Standard terms	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Positioning terminology	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. General planes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
D. Terminology of movement and direction	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
E. Positioning aids	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
F. Accessory equipment	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
II. Evaluation of Radiographic Orders			
A. Patient identification	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B. Verification of procedure(s) ordered	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
C. Review of clinical history	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D. Special considerations for age, disability and cultural background	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E. Patient preparation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F. Room preparation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
III. Positioning Considerations for Routine Radiographic Procedures			
A. Patient positioning	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Image receptor selection and placement	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Appropriate grid use	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
D. Beam alignment and angulation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
E. Beam limitation and shielding	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
F. Special considerations	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Check marks indicate elements of forensic radiography in existing curricula or existing educational programs of the designated specialty. Unchecked elements for a given specialty are intended to guide in developing educational pathways. R.T., radiologic technologist; LXMO, limited x-ray machine operator; F.A., forensic assistant.			

Licenciatura em Radiologia

	R.T.	LXMO	F.A.
G. Anatomy and positioning for the following studies:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
1. Chest and thorax	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
2. Extremities	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
3. Podiatric	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
4. Vertebral column	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
5. Cranium	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
H. Image evaluation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
IV. Contrast Media			
A. Rationale for use	<input checked="" type="checkbox"/>		
B. Agents	<input checked="" type="checkbox"/>		
C. Contrast preparations	<input checked="" type="checkbox"/>		
D. Media in Use	<input checked="" type="checkbox"/>		
V. Definitions/Terminology			
A. Pathology	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Disease	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Etiology	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
D. Diagnosis	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
E. Prognosis	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
VI. Relevance to Radiographic Procedures			
A. Purpose of the procedure	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Manifestations of pathology	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Technical considerations	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
D. Radiographic appearance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
VII. Imaging for Investigative Procedures			
A. Basal skull			<input checked="" type="checkbox"/>
B. Burned remains			<input checked="" type="checkbox"/>
C. Decomposed body			<input checked="" type="checkbox"/>
Check marks indicate elements of forensic radiography in existing curricula or existing educational programs of the designated specialty. Unchecked elements for a given specialty are intended to guide in developing educational pathways. R.T., radiologic technologist; LXMO, limited x-ray machine operator; F.A., forensic assistant.			

	R.T.	LXMO	F.A.
D. Gunshot wounds			<input checked="" type="checkbox"/>
E. Intraoral investigation			<input checked="" type="checkbox"/>
F. Missile identification			<input checked="" type="checkbox"/>
G. Motor vehicle accidents			<input checked="" type="checkbox"/>
H. Removal of artifacts			<input checked="" type="checkbox"/>
I. Skeletal remains			<input checked="" type="checkbox"/>
J. Unidentified corpse			<input checked="" type="checkbox"/>
Scope of Forensic Radiology			
I. Service			<input checked="" type="checkbox"/>
II. Education			<input checked="" type="checkbox"/>
III. Concerns of Public Health and Safety			<input checked="" type="checkbox"/>
IV. Mass Casualty			<input checked="" type="checkbox"/>
V. Child Abuse			<input checked="" type="checkbox"/>
VI. Research			<input checked="" type="checkbox"/>
VII. Domestic Abuse			<input checked="" type="checkbox"/>
VIII. Abuse of the Elderly			<input checked="" type="checkbox"/>
IX. Human Rights Abuse, Torture, Terrorism			<input checked="" type="checkbox"/>
Check marks indicate elements of forensic radiography in existing curricula or existing educational programs of the designated specialty. Unchecked elements for a given specialty are intended to guide in developing educational pathways. R.T., radiologic technologist; LXMO, limited x-ray machine operator; F.A., forensic assistant.			

Descriptions

Digital Image Acquisition and Display

Content is designed to impart an understanding of the components, principles and operation of cassette-based and cassette-less imaging systems found in radiology. Factors that affect image acquisition, display, archiving and retrieval are discussed.

Proposed minimum hours of instruction: 40

Film-screen Image Production and Evaluation

Content is designed to establish a knowledge base in factors that govern and influence the production and recording of radiologic images. Film-screen imaging with related accessories will be emphasized. Radiographic image analysis methods will be introduced using actual images. Included are the importance of minimum imaging standards, discussion of a problem-solving technique for image evaluation and the factors that can affect image quality.

Proposed minimum hours of instruction: 50

Fluoroscopic Unit Operation and Safety

Content promotes the conscientious operation of the fluoroscopic device. Analysis of the functional components of fixed and mobile fluoroscopic devices heightens operator awareness of the features and limitations of this imaging medium. Procedures and techniques to optimize image quality while reducing potential radiation exposure to operator and ancillary personnel are included.

Proposed minimum hours of instruction: 10

Fundamentals, Ethics and Law of Health Care

Content is designed to provide an overview of the foundations in radiologic science. The elements of ethical behavior will be discussed, as well as a variety of ethical issues and dilemmas found in clinical practice. An introduction to legal terminology, concepts and principles also will be presented. Topics include misconduct, malpractice, legal and professional standards. The importance of proper documentation and consent is emphasized.

Proposed minimum hours of instruction: 8

Human Structure and Function

Content is designed to establish a knowledge base in anatomy and physiology. Components of the cells, tissues, organs and systems will be described and discussed.

Proposed minimum hours of instruction: 25

Imaging Equipment and Radiation Production

Content is designed to establish a knowledge base in radiographic equipment and x-ray production. Topics include atomic structure, the nature and characteristics of radiation and the fundamentals of photon interactions with matter.

Proposed minimum hours of instruction: 40

Medical Terminology

Content is designed to provide an introduction to the origins of medical terminology. A word-building system will be introduced, and abbreviations and symbols will be discussed. Also introduced will be an orientation to the understanding of radiographic orders and interpretation of diagnostic reports. Related terminology is addressed.

Proposed minimum hours of instruction: 10

Patient Care in Forensic Science

Content is designed to provide the basic concepts of patient care, including consideration for the physical and psychological needs of the patient and family. Routine patient care procedures will be described, as well as infection control procedures using standard precautions. Content also will include the study of factors that influence relationships with patients and professional peers.

Proposed minimum hours of instruction: 30

Principles of Computed Tomography (CT)

Content is designed to provide students with an exposure to principles related to computed tomography (CT) imaging.

Proposed minimum hours of instruction: 15

Radiation Biology

Content is designed to provide an overview of the principles of the interaction of radiation with living systems. Radiation effects on molecules, cells, tissues and the body as a whole are presented. Factors affecting biological response are presented, including acute and chronic effects of radiation.

Proposed minimum hours of instruction: 20

Radiation Protection

Content is designed to present an overview of the principles of radiation protection, including the responsibilities of the radiographer for patients, personnel and the public. Radiation health and safety requirements of federal and state regulatory agencies, accreditation agencies and health care organizations are incorporated.

Proposed minimum hours of instruction: 20

Radiographic Procedures of the Forensic Assistant

Content is designed to provide a knowledge base necessary to perform standard radiographic procedures. Consideration will be given to the production of images of optimal quality. Students will be introduced to clinical manifestations of pathologic processes, their radiographic appearance and relevance to radiographic procedures.

Proposed minimum hours of instruction: 15

1.7 Curso de Pós-Graduação de Investigação Radiológica em Ciências Forenses



UNIVERSIDADE ATLÂNTICA

**CURSO DE PÓS-GRADUAÇÃO DE
Investigação Radiológica em Ciências
Forenses**

COLÉGIO DE PÓS-GRADUAÇÃO da *Universidade Atlântica*

2015-2016

1 -COORDENAÇÃO DA PÓS-GRADUAÇÃO

Nome

E-mail

Telemóvel do (s) coordenador (es)

2 – COMISSÃO CIENTÍFICO-PEDAGÓGICA

Nome

Email

Telemóvel dos membros da comissão Científico-Pedagógica.

3. APRESENTAÇÃO

A Radiologia Forense é um dos elementos mais recentes na ciência forense pois, só há relativamente pouco tempo, é que começou a ser utilizada juntamente com as técnicas mais tradicionais e antigas de investigação. A radiologia forense engloba o trabalho, interpretação e relatório dos exames e procedimentos radiológicos efetuados numa investigação criminal ou cível. Pela sua natureza, resolve e revela segredos que estão escondidos dentro do corpo em estudo, humano ou não.

Esta Pós Graduação pretende dar aos Técnicos de Radiologia um nível de estudos superior acrescentando conhecimento e promovendo assim uma majoração nas suas competências, por forma a tornarem-se peças imprescindíveis no futuro das equipas multidisciplinares que efetuam investigação, não só no nosso país, mas também no estrangeiro e particularmente nas equipas das ciências forenses.

Sendo Portugal um país em que os nossos cursos são reconhecidos no exterior, pelo rigor científico e qualidade dos profissionais que forma, seria uma mais valia oferecer a todos os Técnicos de Radiologia a possibilidade de se especializarem numa área ainda pouco especializada.

Assim, um plano de estudos que vise por um lado suprimir a necessidade de Técnicos de Radiologia especializados nesta área no nosso país, por outro abriria as portas no mercado de trabalho nacional e internacional, bem como formar Técnicos de Radiologia de outros países onde esta especialização não existe e é necessária, trazendo assim para as nossas instituições de ensino reconhecimento numa área pouco desenvolvida.

4. OBJETIVOS DA PÓS-GRADUAÇÃO

Objetivos Gerais

Esta pós Graduação visa dar aos Técnicos de Radiologia um nível de estudos superior acrescentando conhecimentos, competências e habilidades na prática de radiografia forense, por forma a tornarem-se peças imprescindíveis no futuro das equipas multidisciplinares que efetuam investigação, não só no nosso país, mas também no estrangeiro nas equipas das ciências forenses.

A abordagem combina sessões teóricas com sessões práticas e sessões de discussão em pequenos grupos, sendo que sempre que possível exista a participação de especialistas no campo da ciência forense, demonstrando o caráter multidisciplinar da prática forense.

Objetivos Específicos

Ao final desta Pós Graduação, os alunos devem ser capazes de:

- Fornecer uma base teórica introdutória para realizar exames de radiografia forenses.
- Aplicar a teoria na prática.
- Discutir as questões legais que respeitam à prática de radiografia forense.
- Preparar Técnicos com as habilidades básicas necessárias para lidar com a causa ante e pós morte.
- A Pós Graduação permite aos alunos desenvolver uma apreciação mais ampla e de compreensão da imagem forense e suas aplicações.
- Formar os primeiros técnicos de radiologia portugueses nesta área.

5. Público-alvo

Destina-se a todos os profissionais de saúde com o grau de Licenciado em Radiologia

6. Parcerias nacionais e/ou internacionais

Instituto Nacional de Medicina Legal e Ciências Forenses, IP.

7. Plano Curricular e Cronograma (fica disponível na página Web em hipertexto)

Unidade Curricular	Horas	ECTS	T/P	Regente	Docente (s)	Grau Académico
<u>Introdução à História da Radiologia Forense</u>	<u>15</u>	<u>2</u>	<u>T/P</u>			
<u>Aspetos Médico-Legais</u>	<u>30</u>	<u>5</u>	<u>T/P</u>			
<u>Objetivos da Radiologia Forense</u>	<u>30</u>	<u>4</u>	<u>T/P</u>			
<u>Cuidados em Radiologia Forense</u>	<u>30</u>	<u>4</u>	<u>T/P</u>			
<u>Patologia e Trauma Forense</u>	<u>30</u>	<u>6</u>	<u>T/P</u>			
<u>Técnicas Radiológicas Forenses I</u>	<u>45</u>	<u>7</u>	<u>T/P</u>			
<u>Balística</u>	<u>12</u>	<u>2</u>	<u>T/P</u>			
<u>Tanatologia</u>	<u>12</u>	<u>3</u>	<u>T/P</u>			
<u>Discussão de Casos</u>	<u>24</u>	<u>3</u>	<u>T/P</u>			
<u>Técnicas Radiológicas Forenses II</u>	<u>12</u>	<u>4</u>	<u>T/P</u>			
<u>Estágio Forense</u>	<u>150</u>	<u>20</u>	<u>P</u>			
Total	240+150	60				

8. TÓPICOS PROGRAMÁTICOS DAS UNIDADES CURRICULARES**Nome da unidade curricular: Introdução à História da Radiologia Forense**

No final desta Unidade Curricular o aluno deverá conhecer cronologicamente os principais factos e acontecimentos que levaram ao aparecimento da Radiologia Forense. Deve o aluno saber também as diferenças entre o que é hoje a Radiologia Forense e o seu passado, bem como o que se perspetiva para o futuro. Também deve saber quais os casos mais famosos que levaram ao desenvolvimento das Ciências Forenses, principalmente da Radiologia.

Nome da unidade curricular: Aspetos Médico-Legais

No final desta Unidade Curricular o aluno deverá adquirir conhecimentos ao nível da estrutura das organizações profissionais da Radiologia Forense, deverá rever e conhecer os critérios éticos na saúde em particular na Radiologia, saber quais os critérios necessários para a acreditação profissional na área Forense, deve adquirir conhecimentos sobre a saúde dos profissionais nas profissões científicas e conhecer as responsabilidades e procedimentos legais nas Ciências Forenses.

Nome da unidade curricular: Objetivos da Radiologia Forense

No final desta Unidade Curricular o aluno deverá demonstrar conhecimentos ao nível da missão da Radiologia Forense, da sua importância na educação, as preocupações com a Saúde Pública, a sua aplicação em casos de fatalidades em massa, abuso de menores, violência doméstica e a idosos, bem como conhecer os Direitos Humanos e qual é a importância da investigação na Radiologia Forense.

Nome da unidade curricular: Cuidados em Radiologia Forense

No final desta Unidade curricular o aluno deverá demonstrar conhecimentos ao nível das responsabilidades da equipa forense, comunicação, atitudes e cuidados com o objeto de estudo, a interação Técnico/objeto de estudo, segurança e proteção radiológica, registo do objeto de estudo, como efetuar o controlo de infeções e como lidar com as diversas culturas, religiões e diversidades étnicas.

Nome da unidade curricular: Patologia e Trauma Forense

No final desta Unidade Curricular o aluno deverá ter adquirido conhecimentos ao nível da patologia forense, identificar sinais de violência doméstica, abuso de menores e idosos, conceitos de sexologia Forense, toxicologia e de Anatomia Patológica.

Nome da unidade curricular: Técnicas Radiológicas Forenses I

No final desta Unidade Curricular o aluno deve dominar as técnicas de posicionamento e centragem da radiologia convencional aplicada à Radiologia Forense, técnicas de fluoroscopia, os procedimentos e ações corretivas de aquisição das imagens de diagnóstico forense.

Nome da unidade curricular: Balística

No final desta Unidade Curricular o aluno deverá conhecer cronologicamente as principais datas e acontecimentos da evolução das armas, o conceito de calibre, a terminologia de identificação de calibres, a classificação de armas, diferença entre canos de alma lisa e estriada, noção básica de comparação de marcas de projéteis, identificar resíduos de disparo e dominar as diretrizes principais do Regime Jurídico de Armas e suas Munições.

Nome da unidade curricular: Tanatologia

No final desta Unidade Curricular o aluno deverá ter conhecimentos para descrever de forma completa os procedimentos na identificação de cadáveres, identificar o mecanismo da morte, sua causa e apoiar no diagnóstico médico-legal com os conhecimentos radiológicos que possui.

Nome da unidade curricular: Discussão de Casos

No final desta Unidade Curricular o aluno deverá demonstrar capacidades na identificação, discussão e defesa de casos forenses, utilizando os conhecimentos adquiridos nas outras Unidades Curriculares.

Nome da unidade curricular: Técnicas Radiológicas Forenses II

No final desta Unidade Curricular o aluno deverá dominar as técnicas de realização de exames nas novas tecnologias, Tomografia Computorizada e Ressonância Magnética, de acordo com os procedimentos da Investigação Forense. No fim deverá saber aplicar nestas novas técnicas os procedimentos e ações corretivas de aquisição das imagens de diagnóstico forense.

Nome da unidade curricular: Estágio Forense

Durante esta Unidade Curricular o aluno deverá acompanhar fisicamente um caso de investigação forense, realizando um relatório sobre a investigação, de acordo com as normas de realização de relatórios de estágio em vigor na instituição de ensino.

9. Corpo docente

Docente e instituição	Unidade Curricular
	<u>Introdução à História da Radiologia Forense</u>
	<u>Aspetos Médico-Legais</u>
	<u>Objetivos da Radiologia Forense</u>
	<u>Cuidados com o Paciente em Radiologia Forense</u>
	<u>Patologia e Trauma Forense</u>
	<u>Técnicas Radiológicas Forenses I</u>
	<u>Balística</u>
	<u>Tanatologia</u>
	<u>Discussão de Casos</u>
	<u>Técnicas Radiológicas Forenses II</u>
	<u>Estágio Forense</u>

10. Calendarização simples

Início em Setembro de 2015 com a duração de 2 (dois) semestres.

3 X por semana (quintas e sextas em horário pós laboral e sábados no período da manhã)

Nota: Todas as propostas devem ser entregues em formato Word para facilitar a revisão e a introdução de comentários e pareceres à margem do texto.

Investigação Radiológica em Ciências Forenses - Proposta de Pós-Graduação

Licenciatura em Radiologia