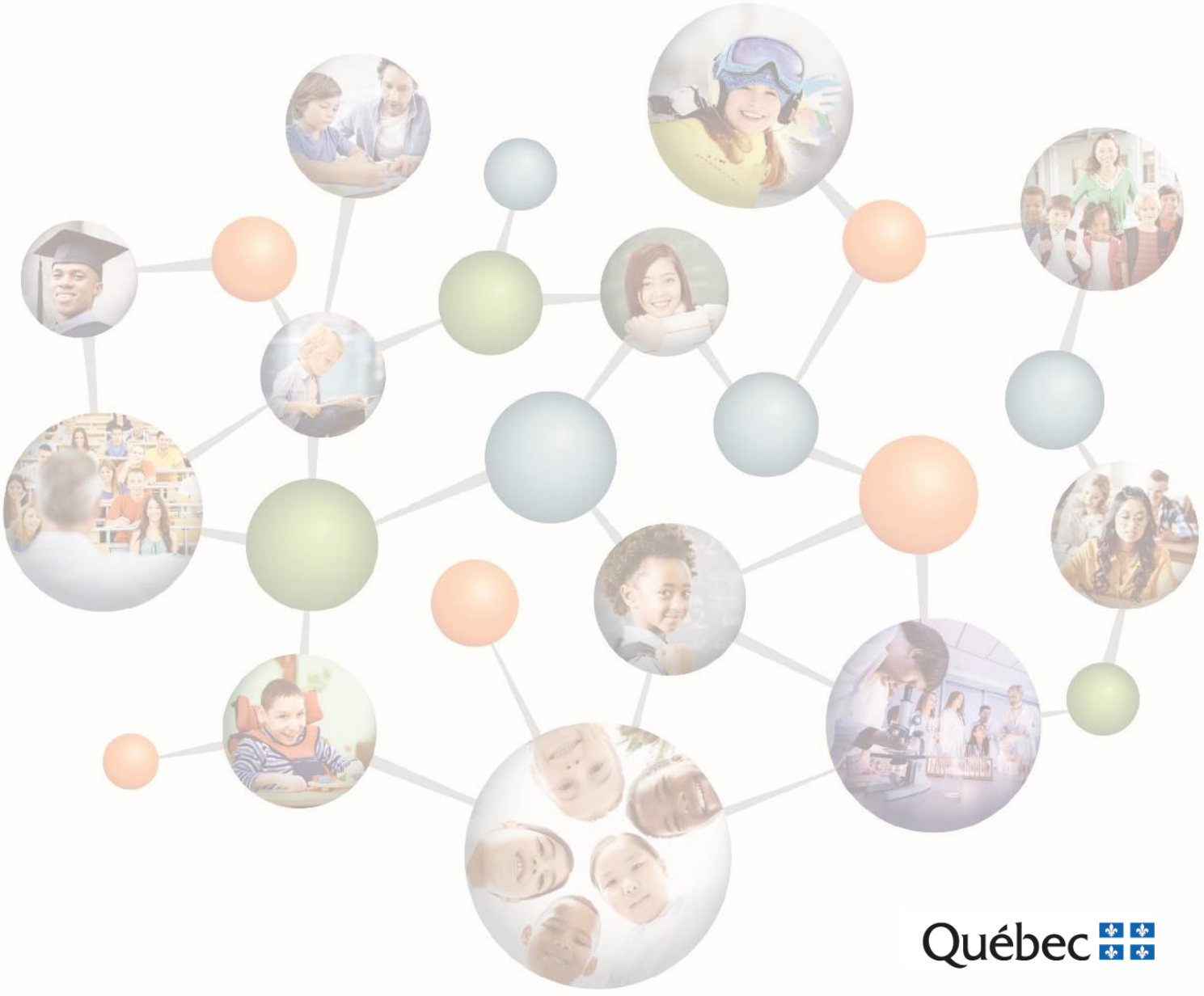
Diagnostic Imaging (142.H0)

Sector 19 – Health Services

College Education Program



Québec

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Type of certification:	Diploma of College Studies
Number of credits:	91 2/3 credits
Number of hours of instruction:	2 865 hours of instruction

General education component:	660	hours of instruction
Program-specific component:	2 205	hours of instruction

Maximum duration allotted to clinical training:	975	hours of instruction

Admission Requirements:

To be admitted to the program, a person must meet the general requirements for admission set out in the *College Education Regulations*, as well as the following special requirements, where applicable:

- Secondary IV Mathematics: Cultural, Social and Technical Option
- Secondary IV Environmental Science and Technology or Science and the Environment

College-Level Programs

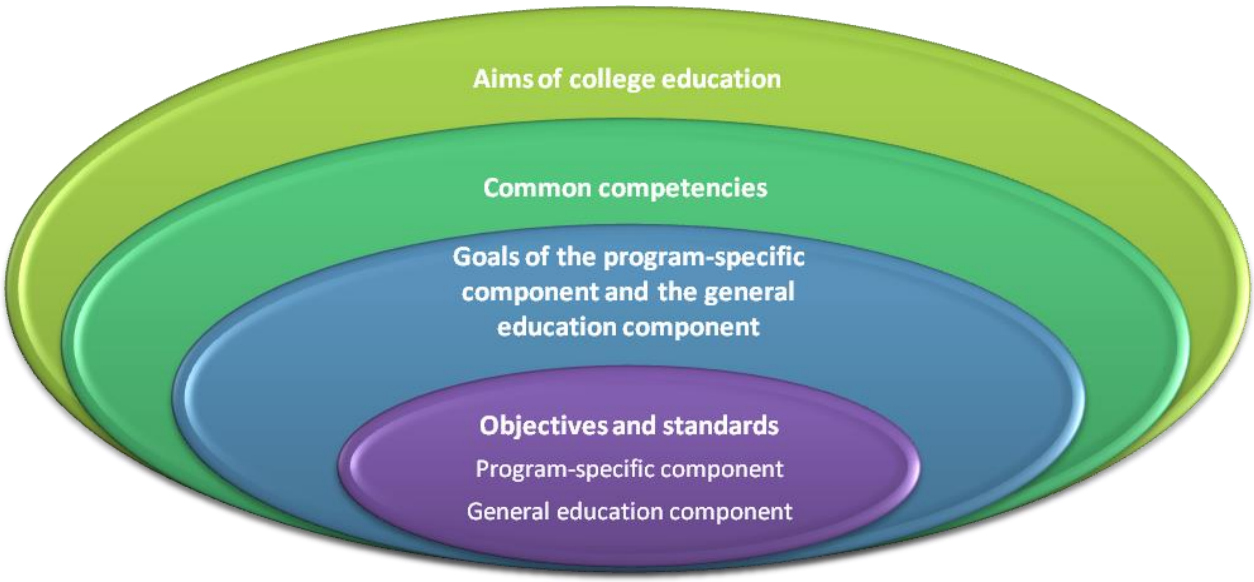
In Québec, college is the next stage after the compulsory years of schooling (elementary and secondary school). College graduates enter the labour market directly or proceed to university studies. The Minister of Education and Higher Education establishes the programs of study, while individual colleges ensure their implementation.

A college-level program provides the frame of reference within which the students acquire designated competencies in order to qualify for a profession or to pursue their studies. For the teachers, the program outlines learning objectives and defines the scope of their application.

The following figure illustrates the relationships among the elements of a college-level program, going from the general to the specific:

- Aims of college education
- Common competencies
- Goals of the program-specific component and the general education component
- Objectives and standards of the program-specific component and the general education component

Figure 1 – Elements of a College-Level Program



Programs leading to the Diploma of College Studies (DCS) include two main components: a general education component and a program-specific component. Both these components contribute to a student's education, as the knowledge, skills and attitudes imparted in one are emphasized and applied in the other, whenever possible. General education is an integral part of each program and, when coupled with the program-specific component as part of an integrated approach, fosters the development of the competencies required by all programs.

Aims of College Education

All college-level programs are characterized by three educational aims and five common competencies.

Educational aims guide the actions of those involved in the students' education. They facilitate the program-based approach by establishing the outcomes expected of students at the end of their college studies.

To educate students to live responsibly in society

At the personal level, students show they are engaged in their learning. They demonstrate rigour and perseverance as well as skills enabling them to analyze, synthesize and carry out research. At the professional level, they draw on their ability to apply their knowledge, skills and attitudes and to adapt to new situations. In the realm of social and civic life, students assume their role as informed and responsible citizens by adopting desirable attitudes and behaviours. They show evidence of open-mindedness and a sense of community in their dealings with others.

To help students integrate cultural knowledge into their studies

Students continue to enhance their personal culture and are able to appreciate various forms of cultural expression. Through their studies, they have become familiar with cultural productions. They can interpret the meaning and assess the value of these productions and are aware of the role they themselves play in the expression of culture. The development of their critical judgment and social conscience and the consolidation of their historical references have broadened their cultural horizons. Students recognize the diversity of social and cultural realities and appreciate the breadth and wealth of Québec's culture. Lastly, they apply their cultural knowledge by making connections among events occurring around them and by being involved in cultural, artistic, sports, technical or scientific activities.

To help students master language as a tool for thought, communication and openness to the world

Students understand and produce various forms of complex discourse in different situations. They are able to read and write independently at an advanced skill level. Their mastery of language allows them to engage in independent reflection, to know where they stand relative to various forms of discourse, and to express themselves in a structured, rational and precise manner. When faced with different communication situations, students are able to express their world view and identity. Language mastery also helps students be receptive to the dissemination of a broad range of knowledge. It allows them to share points of view and improve their communication skills in both the language of instruction and the second language.

Common Competencies of College Education

Common competencies are associated with the aims of college education. They help to ensure students are adequately prepared for personal and professional life.

Solve problems

Students can identify a problem and analyze its elements. They can list and classify possible solutions and implement the one they feel is most effective. They reflect on their approach, assess the appropriateness of the chosen solution and determine whether it can be applied in other situations.

Use creativity

Students discover new possibilities by juxtaposing, combining and reorganizing existing concepts, and by using ideas, strategies and techniques in new ways. Students are open to new ideas and different ways of doing things, while assessing their effectiveness.

Adapt to new situations

When faced with a new situation, students are both open and critical. After analyzing the situation at hand, they identify and test ways of dealing with it. To adapt to a world that is constantly changing, students work in teams and show concern for keeping their knowledge up to date.

Exercise a sense of responsibility

Students assume their role as responsible citizens and act in accordance with socially and democratically desirable attitudes and behaviours. They act ethically and with integrity, exercise critical judgment and are fully engaged, personally, socially and professionally. Independent and organized, they respect their commitments.

Communicate

Students deliver a coherent message adapted to each situation. They are able to listen and to structure their thoughts in order to formulate a clear message. They rely on a variety of communication strategies and use information and communications technologies. They evaluate the impact of their communication and review their strategies, as needed.

Implementation of College-Level Programs

Each college determines the ways in which the educational aims, common competencies, goals, objectives and standards are implemented. This does not mean that students in a college must follow common courses. Each course may contribute to the full or partial achievement of these elements. The important thing is that all of these elements are taken into consideration in one or more courses and that they become specific focuses of teaching and learning, since they have been recognized as essential to the practice of a profession or to the pursuit of university studies in a given discipline.

The *Diagnostic Imaging* Program (142.H0)

The *Diagnostic Imaging* program was designed in accordance with the framework for developing technical programs. This approach involves the participation of partners working in the professional field and in education, and takes into account training needs, the job analysis and the general goals of technical education. The objectives and standards serve as the basis for the definition and evaluation of learning activities, for which the colleges are responsible. By successfully completing this program of study, students acquire not only the entry-level competencies required by the workplace to practise the profession, but also a range of knowledge, skills and attitudes that will ensure their versatility.

The *Diagnostic Imaging* program includes four components: a program-specific component, a general education component that is common to all programs, a general education component that is specific to each program, and a complementary general education component.

- The program-specific component consists of 65 credits.
- The general education component that is common to all programs consists of 16⅔ credits:
  - Language of Instruction and Literature: 7⅓ credits
  - Philosophy or Humanities: 4⅓ credits
  - Physical Education: 3 credits
  - Second Language: 2 credits
- The general education component that is specific to the program consists of 6 credits:
  - Language of Instruction and Literature: 2 credits
  - Philosophy or Humanities: 2 credits
  - Second Language: 2 credits
- The complementary general education component, which aims to expose students to subject areas outside their program of study, consists of 4 credits and includes courses in the following areas:
  - Social Sciences
  - Science and Technology
  - Modern Language
  - Mathematics Literacy and Computer Science
  - Art and Aesthetics
  - Contemporary Issues

  Students may choose courses only in those areas that are outside their program of study.

Goals of the Program

Program-Specific Component

The goals of the program-specific component of the *Diagnostic Imaging* program are based on the general goals of vocational and technical training. These goals are:

- To help students develop effectiveness in the practice of a trade or occupation, that is:
  - To teach students to perform roles, functions, tasks and activities associated with the different methods of diagnostic radiology upon entry into the job market
  - To prepare students to progress satisfactorily on the job by encouraging them to:
    - Acquire the intellectual ability and technical skills required to exercise good judgment in the course of their work
    - Develop professional ethics
    - Develop effective communication skills for interacting with patients, co-workers and other health personnel
    - Reinforce reflexes pertaining to vigilance and accuracy in the course of their work
    - Develop a constant concern for occupational health and safety, the environment and quality control

- To help students integrate into the work force, that is:
  - To familiarize students with the job market in general and the context surrounding the trade or occupation they have chosen
  - To familiarize students with their rights and responsibilities as workers
- To foster students' personal development and acquisition of occupational knowledge, skills, perceptions and attitudes, that is:
  - To help students develop their autonomy and the desire to learn, and acquire effective work methods
  - To help students understand the principles underlying the techniques and the technology used in the trade or occupation
  - To help students develop self-expression, creativity, initiative and entrepreneurial spirit
  - To help students adopt the attitudes required to successfully practise the trade or occupation, and instill in them a sense of responsibility and a concern for excellence
- To promote job mobility, that is:
  - To help students develop positive attitudes toward change
  - To help students develop the means to manage their careers by familiarizing them with entrepreneurship

Educational Aims

Educational aims in the program-specific component are based on important values and concerns and serve as guidelines for interactions with students. As a general rule, educational aims focus on important aspects of the students' professional and personal development, such as attitudes, work habits and intellectual skills, which have not been explicitly formulated in the program's goals, objectives and standards.

In keeping with the aims of college education, the program-specific component is also intended to educate students to live responsibly in society, to help them integrate cultural knowledge into their studies and, lastly, to help them master language as a tool for thought, communication and openness to the world.

General Education Component Common to All Programs and General Education Component Specific to the Program

The general education components that are common to all programs and specific to the program contribute to the development of twelve competencies associated with the three aims of college education:

- For the aim *To educate students to live responsibly in society*:
  - Demonstrate independence and creativity in thought and action
  - Demonstrate rational, critical and ethical thinking
  - Develop strategies that promote reflection on their knowledge and actions
  - Pursue the development of a healthy and active lifestyle
  - Assume their social responsibilities
- For the aim *To help students integrate cultural knowledge into their studies*:
  - Recognize the influence of culture and lifestyle on the practice of physical activity and sports
  - Recognize the influence of the media, sciences or technology on culture and lifestyle
  - Analyze works in philosophy or the humanities emanating from different historical periods and movements
  - Appreciate literary and non-literary works of other artistic expressions emanating from different historical periods and movements
- For the aim *To help students master language as a tool for thought, communication and openness to the world*:
  - Improve communication in the second language
  - Master the basic rules of discourse and argumentation
  - Refine oral and written communication in the language of instruction

English, Language of Instruction and Literature

Students who have achieved the general education objectives in English, Language of Instruction and Literature:

- Will be able to demonstrate their knowledge of the following:
  - The basic vocabulary and terminology used when discussing literary works
  - Ways to apply an independent analytical approach to literary genres
  - Ways to apply an independent analytical approach to literary themes
  - The appreciation of literary and non-literary works or other artistic expressions of different historical periods and movements
  - Ways to identify the socio-cultural and historical context of different periods and movements
  - Ways to refine oral and written communication in the language of instruction

- Will be able to demonstrate their ability to do the following:
  - Read, write, listen and speak at a college level of proficiency
  - Develop their own ideas in arguments and theses
  - Organize their arguments and theses in a discourse and edit their work
  - Produce and analyze various forms of discourse
  - Communicate in the forms of discourse appropriate to one or more fields of study
- Will be encouraged to develop the following attitudes:
  - Independence, individuality, and open-mindedness in thought and action
  - An appreciation of literature and other artistic works from different periods
  - A recognition of the role of media within a society and its culture
  - An awareness of strategies that foster self-reflective practice in their learning and actions
  - Critical and ethical thought

Humanities

Humanities constitutes a thematic, multidisciplinary and, at times, transdisciplinary exploration of humankind, including its accomplishments, failures, abilities, creations, ideas and values. Students who have achieved the general education objectives in Humanities:

- Will be able to demonstrate their knowledge of the following:
  - The main concepts, limits and uses of a form of knowledge including significant historical reference points
  - The main concepts, limits and uses of a world view
  - The nature and organization of the basic elements of an ethical question
  - Methods for coherent integration of concepts and the formulation and synthesis of ideas
  - The importance and practice of adequately substantiated argumentation, written and oral
- Will be able to demonstrate their ability to do the following:
  - Describe, explain and organize the main elements, ideas, values and implications of a world view in a coherent fashion
  - Compare world views
  - Recognize the basic elements in a specific example of the organization, transmission, and use of knowledge
  - Recognize forms of creativity and original thought
  - Define the dimensions, limits and uses of knowledge in appropriate historical contexts
  - Identify, organize and synthesize the salient elements of a particular example of knowledge
  - Situate important ethical and social issues in their appropriate historical and intellectual contexts
  - Explain, analyze and debate ethical issues in a personal and professional context
  - Utilize the multiple strategies of critical thinking
- Will be encouraged to develop the following attitudes:
  - Openness to diversity and pluralism
  - Awareness of the limits of knowledge claims, world views and ethical perspectives
  - Respect for the points of view of others
  - Empathy and acceptance of others
  - Concern for global issues
  - Determination to continue learning

French as a Second Language

Students who have achieved the general education objectives in French as a Second Language:

- Will be able to demonstrate their knowledge of the following:
  - Different reading techniques
  - The formal elements needed to produce a structured text, both orally and in writing
  - Different forms of discourse and their specific uses
- Will be able to demonstrate their ability to do the following:
  - Question, analyze, judge and defend an argument in french
  - Reflect on their knowledge and actions notably by revising their written productions
  - Maintain social relationships and share in the cultural life of québec
  - Establish and maintain work-related relationships in french
- Will be encouraged to develop the following attitudes:
  - Openness to the various aspects of québec culture
  - Recognition and promotion of creativity
  - Readiness to participate in social and economic life

Physical Education

Students who have achieved the general education objectives in Physical Education:

- Will be able to demonstrate their knowledge of the following:
  - Notions and concepts based on the findings of scientific research and how to apply them methodically to physical or sporting activities
  - The relationship between lifestyle, physical activity, physical fitness and health
  - Ways to evaluate their own abilities and needs with respect to activities that can enhance their health and fitness
  - The rules, techniques and conditions involved in different types of physical or sporting activity
  - The main socio-cultural determinants of physical activity and a healthy lifestyle
- Will be able to demonstrate their ability to do the following:
  - Give an initial account of their abilities, attitudes and needs
  - Choose physical activities on the basis of their motivation, their ability to adapt to effort and their need for change
  - Apply the rules and techniques of a certain number of physical activities with a view to practising them sufficiently on a regular basis
  - Set goals that are realistic, measurable, challenging and situated within a specific time frame
  - Improve their mastery of basic techniques and strategies associated with physical activities
  - Evaluate their skills, attitudes and progress in order to adapt their means or objectives in their practice of physical activities
  - Autonomously maintain or increase their physical activity and fitness levels in order to develop a healthy and active lifestyle
  - Use their creativity in physical activities
  - Express their choice of activities in a clear and reasoned manner

- Will be encouraged to develop the following attitudes:
  - Awareness of the importance of regular and sufficient physical activity in order to improve their fitness
  - Awareness of the factors that encourage them to practise physical activity more often
  - Awareness of the importance of evaluating and respecting their ability to adapt to effort, as well as an awareness of the conditions necessary to carry out a physical activity program, before committing to it
  - Self-confidence, self-control, cooperation, respect and understanding, through knowledge and through the practice of a physical activity
  - Respect for ethical behaviour when participating in a sport or a physical activity
  - Respect for individual and cultural differences as well as for the environment in which the sport or physical activity takes place
  - Appreciation for the aesthetic value of physical activity as well as the opportunities for enjoyment it provides
  - Readiness to adopt the values of discipline, effort, consistency and perseverance
  - Readiness to promote, as a social value, the regular and sufficient practice of physical activity

Complementary General Education Component

Social Sciences

The goal of this subject area is to help students view the social sciences as a specific approach to the study of human existence. This goal may cover various aspects, including the study of the specific contribution of the social sciences to an understanding of contemporary issues and the application of approaches from the social sciences.

Science and Technology

The goal of this subject area is to present science and technology as a specific approach to the study of reality, by introducing students to this area of knowledge. This goal may cover various aspects, including the study of the general nature of science and technology and contemporary scientific or technological issues as well as the application of the scientific method.

Modern Language

The goal of this subject area is to introduce students to the basic structures and vocabulary of a third language and help them develop an awareness of the culture of its native speakers.

Mathematics Literacy and Computer Science

The goal of this subject area is to highlight a culture of mathematics and computer science. This goal may cover various aspects, including the study of the role of mathematics or computers in contemporary society as well as the use of mathematical or computer concepts, procedures and tools.

Art and Aesthetics

The goal of this subject area is to provide students with a cultural awareness by exploring various forms of art and to help students develop an aesthetic awareness. This goal may cover various aspects, including an appreciation of different art forms and the production of a work of art.

Contemporary Issues

This subject area focuses on current, transdisciplinary issues. The concept of transdisciplinarity refers to a type of approach that addresses a contemporary issue from the perspective of different disciplines and areas of knowledge, beyond a mere juxtaposition of the subjects studied.

Goals of the Program-Specific Component

The goal of the *Diagnostic Imaging* program is to form diagnostic imaging technologists.

Diagnostic imaging technologists are health sector professionals who are employed by public or private health institutions. They work in dedicated medical imaging departments and services, and also in a variety of other environments, including at patients' bedsides and in operating rooms. Their role is to produce the best possible images, based on a medical prescription, using ionizing radiation and other energy forms, and to gather data that radiologists and other medical specialists can use to make a diagnosis or produce a treatment plan. Diagnostic imaging technologists play a role in and contribute to the delivery of services to patients.

Diagnostic imaging technologists can work in different areas of the medical imaging field, for adult or pediatric patients:

- General radiography;
- Bone densitometry;
- Mammography;
- Radioscopy;
- Angiography;
- Computed tomography;
- Magnetic resonance.

Diagnostic imaging technologists may be asked to conduct a variety of examinations on a broad range of patients of all ages with all types of physical and psychological conditions, in every field of diagnostic radiology. They may also participate in other types of examinations through procedures performed during medical interventions.

Diagnostic imaging technologists use specialized equipment and appropriate substances to produce, process, transmit and archive medical imaging data, with due regard for the patient's particular needs and the safety conditions specific to each context. They may also be asked to train new technologists in their field of expertise, and to perform or assist with research in the field of diagnostic radiology.

To practise their profession, diagnostic imaging technologists must be members of the *Ordre des technologues en imagerie médicale, en radio-oncologie et en électrophysiologie médicale du Québec* (OTIMROEPMQ).

The professional practice of diagnostic imaging technologists is governed by a regulatory framework, including the *Act respecting medical imaging technologists, radiation oncology technologists and medical electrophysiology technologists*, and the professional code of ethics.

Objectives

Statements of the Competency

Program-Specific Component

01PX Analyze the profession and the regulatory framework
01PY Prevent risks related to health, safety, hygiene, cleanliness and the environment
01PZ Operate examination equipment that uses ionizing radiation and ultrasound
01X0 Ensure that individuals are protected during diagnostic radiology examinations
01XQ Operate examination equipment that uses a magnetic field and radiofrequencies
01XR Analyze anatomical information related to diagnostic radiology examinations
01XS Analyze the pathological signs related to diagnostic radiology examinations
01XT Optimize the quality of the diagnostic images
01XU Interact in a professional context
01XV Provide care related to the practice of diagnostic radiology
01XW Perform quality control activities
01XX Perform radiographic examinations of the limbs, pelvis, spine and thorax
01XY Perform radiographic examinations of the head, respiratory system and abdomen
01XZ Perform mammographic examinations
01Z7 Perform radioscopic examinations
01Z8 Perform angiographic examinations
01Z9 Perform computed tomography examinations of the head, spine and limbs
01ZA Perform computed tomography examinations of the thorax, abdomen and pelvis
01ZB Perform magnetic resonance examinations of the head and spine
01ZC Perform magnetic resonance examinations of the limbs, abdomen and pelvis
01ZD Contribute to the ongoing improvement of the practice of diagnostic radiology

General Education Component Common to All Programs and General Education Component Specific to the Program

16⅔ credits and 420 hours of instruction, 6 credits and 150 hours of instruction

English, Language of Instruction and Literature

4EA0 Analyze and produce various forms of discourse
4EA1 Apply a critical approach to literary genres
4EA2 Apply a critical approach to a literary theme
4EAP Communicate in the forms of discourse appropriate to one or more fields of study

Humanities

4HU0 Apply a logical analytical process to how knowledge is organized and used
4HU1 Apply a critical thought process to world views
4HUP Apply a critical thought process to ethical issues relevant to the field of study

French as a Second Language

One objective to be met from the following:

4SF0 Apply basic concepts for communicating in standard French
4SF1 Communicate in standard French with some ease
4SF2 Communicate with ease in standard French
4SF3 Explore a cultural or literary topic

One objective to be met from the following:

4SFP Apply basic concepts for communicating in French in relation to the student's field of study
4SFQ Communicate in French on topics related to the student's field of study
4SFR Communicate with ease in French on topics related to the student's field of study
4SFS Produce a text in French on a topic related to the student's field of study

Physical Education

4EP0 Analyze one's physical activity from the standpoint of a healthy lifestyle
4EP1 Improve one's effectiveness when practising a physical activity
4EP2 Demonstrate one's ability to assume responsibility for maintaining a healthy lifestyle through the continued practice of physical activity

Complementary General Education Component

4 credits, 90 hours of instruction

Two objectives to be met from the following, in subject areas outside the student's program of study:

000V Estimate the contribution of the social sciences to an understanding of contemporary issues
000W Analyze one of the major problems of our time using one or more social scientific approaches
000X Explain the general nature of science and technology and some of the major contemporary scientific or technological issues
000Y Resolve a simple problem by applying the basic scientific method
000Z Communicate with limited skill in a modern language
0010 Communicate on familiar topics in a modern language
0067 Communicate with relative ease in a modern language
0011 Recognize the role of mathematics or computer science in contemporary society
0012 Use various mathematical or computer science concepts, procedures and tools for common tasks
0013 Consider various forms of art produced according to aesthetic practices
0014 Produce a work of art
021L Consider contemporary issues from a transdisciplinary perspective
021M Explore a contemporary issue from a transdisciplinary perspective

Grid of Competencies

The grid of competencies provides an overview of a technical program. It brings together all of the components of a program and shows the relationship among the competencies.

The grid of competencies includes:

- The general competencies of the program-specific component, which deal with work-related activities common to various tasks or situations
- The specific competencies, which deal with tasks directly related to the practice of the trade or occupation

The grid of competencies shows the relationship between the general competencies on the horizontal axis and the specific competencies on the vertical axis. The symbol (○) indicates a correlation between a general and a specific competency.

The order in which the competencies are presented reflects the program's design; it does not dictate the course sequence. The grid of competencies is provided for information purposes only.

GRID OF COMPETENCIES

DIAGNOSTIC IMAGING	**Competency number**	GENERAL COMPETENCIES										
		Analyze the profession and the regulatory framework	Prevent risks related to health, safety, hygiene, cleanliness and the environment	Operate examination equipment that uses ionizing radiation and ultrasound	Ensure that individuals are protected during diagnostic radiology examinations	Operate examination equipment that uses a magnetic field and radiofrequencies	Analyze anatomical information related to diagnostic radiology examinations	Analyze the pathological signs related to diagnostic radiology examinations	Optimize the quality of the diagnostic images	Interact in a professional context	Provide care related to the practice of diagnostic radiology	Perform quality control activities
Specific component												
Competency number		1	2	3	4	5	6	7	8	9	10	11
Perform radiographic examinations of the limbs, pelvis, spine and thorax	12	O	O	O	O		O	O	O	O	O	O
Perform radiographic examinations of the head, respiratory system and abdomen	13	O	O	O	O		O	O	O	O	O	O
Perform mammographic examinations	14	O	O	O	O		O	O	O	O	O	O
Perform radioscopic examinations	15	O	O	O	O		O	O	O	O	O	O
Perform angiographic examinations	16	O	O	O	O		O	O	O	O	O	O
Perform computed tomography examinations of the head, spine and limbs	17	O	O	O	O		O	O	O	O	O	O
Perform computed tomography examinations of the thorax, abdomen and pelvis	18	O	O	O	O		O	O	O	O	O	O
Perform magnetic resonance examinations of the head and spine	19	O	O		O	O	O	O	O	O	O	O
Perform magnetic resonance examinations of the limbs, abdomen and pelvis	20	O	O		O	O	O	O	O	O	O	O
Contribute to the ongoing improvement of the practice of diagnostic radiology	21	O	O	O	O	O	O	O	O	O	O	O
Existence of a functional correlation: O			O	O	O	O	O	O	O	O	O	O

Program-Specific Component

Code: 01PX

Objective	*Standard*
Statement of the Competency	**Achievement Context**
Analyze the profession and the regulatory framework.	• By referring to the current organization of the health and social services system • Using information about public and private health institutions • Based on current laws, regulations, standards and codes • Using recent data on the profession

	Performance Criteria for the Competency as a Whole
	• Gathering of relevant information • Critical analysis of the information • Expression of interest in the profession • Realistic assessment of career prospects and the necessary path to achieve them

Elements of the Competency	**Performance Criteria**
1. Describe the overall organization of the healthcare system.	• Accurate understanding of the organization of the healthcare system • Accurate understanding of various working environments (public and private) • Accurate understanding of the roles of practitioners associated with the profession
2. Examine the general context within which the profession is practised.	• Clear and complete definition of the profession • Identification of the conditions for admission to the profession • Recognition of employment prospects • Accurate identification of recognized levels of practice (full practice and advanced practice) • Recognition of trends in the medical imaging field
3. Examine the tasks and activities associated with the profession, the conditions under which they are performed and the associated requirements.	• Complete examination of the tasks and their respective processes • Establishment of links between the performance conditions and requirements for each task

Elements of the Competency	Performance Criteria
4. Examine the skills and behaviours required to practise the profession.	• Relevance of the links established between the skills and behaviours associated with the caregiving aspect of the profession • Relevance of the links established between the skills and behaviours associated with the technical aspect of the profession • Realistic comparison with one's own skills and behaviours
5. Examine the main sources of laws governing the profession of diagnostic imaging technologists.	• Clear identification of the roles, powers and responsibilities of the various organizations governing the profession (Office des professions du Québec, Health Canada, professional order, etc.) • Examination of the legal and regulatory requirements governing the practice of the profession: ○ Canadian and Québec charters of rights and freedoms ○ Civil Code and Criminal Code ○ Public health acts ○ Act respecting medical imaging technologists, radiation oncology technologists and medical electrophysiology technologists ○ Code of ethics ○ Government programs (breast cancer screening, etc.) ○ Professional practice standards and provincial and federal guidelines • Understanding of the restrictions on professional practice with respect to: ○ Transmission of information to patients, persons accompanying them, health professionals, etc. ○ Reserved activities
6. Examine the program of study and its requirements.	• Understanding of the program structure, evaluation methods, certification of studies and institutional policies • Identification of relevant links between entry-level competencies upon graduation, conditions for entry into the profession and recognized levels of practice
7. Assess the relationship between the profession, the program of study and one's projected professional career.	• Identification of relevant connections between the profession, the program of study and one's projected professional career • Realistic assessment of one's own motivation to work toward professional practice

Code: 01PY

Objective *Standard*

Statement of the Competency	Achievement Context
Prevent risks related to health, safety, hygiene, cleanliness and the environment.	• In everyday situations that involve risks for medical personnel, patients and the general public • In collaboration with the medical personnel and other resource people, where applicable • Based on current laws, regulations, standards, guidelines and codes • Based on directives, protocols, standardized operational procedures and emergency plans • Using personal and collective means of protection, moving equipment, materials, accessories and products • Using reference documents

	Performance Criteria for the Competency as a Whole
	• Compliance with regulations • Compliance with protocols and procedures • Constant vigilance with respect to every aspect of health and safety • Prompt response to specific situations • Informed decisions appropriate to the situation • Communication adjusted to the needs of the persons being addressed

Elements of the Competency	Performance Criteria

1. Recognize the risks and dangers arising from the professional practice of diagnostic radiology.	• Accurate assessment of the following risks and dangers:
	  ○ Chemical
	  ○ Physical
	  ○ Biological
	  ○ Ergonomic
	  ○ Psychosocial
	  ○ Safety
	• Consideration of the consequences of failure to meet health and safety standards

2. Interpret the regulations governing health, safety, hygiene, cleanliness and the environment.	• Gathering of relevant information • Correlation between legislative provisions, regulations and standards and the activities performed as part of professional practice • Correlation between procedures applied in the workplace and activities performed as part of professional practice • Proper understanding of the rights and obligations of employers and employees

Elements of the Competency	Performance Criteria
3. Apply measures designed to prevent and control contagion, transmission of infection and contamination.	• Understanding of the process of infection and the risk of contamination • Effective application of the rules governing basic practices and additional precautions including: ○ The principles of asepsis ○ Hand washing ○ Maintenance of the work area, surfaces and equipment (stretchers, keyboards, etc.) ○ Wearing of protective clothing, uniforms and accessories ○ Personal hygiene, etc.
4. Adopt ergonomic work methods.	• Appropriate choice of work postures that limit the risk of injury and accidents • Proper organization of the work environment • Strict application of safety measures for moving patients
5. Handle devices, equipment and medications, chemical, pharmaceutical and biological waste, and compressed gases used in diagnostic radiology.	• Proper verification of the integrity of emergency equipment, contrast agents and medications • Standard application of measures for the handling, storage and elimination of hazardous products • Strict application of safety measures for the handling and safe disposal of biomedical waste
6. Resolve difficult situations related to professional practice.	• Recognition of stress factors related to professional practice • Use of appropriate approaches to stress management • Recognition of intervention strategies for use with people in distress, difficult or aggressive people, etc. • Identification of appropriate ways of preventing professional burnout • Recognition of one's own needs, limitations and ability to meet the requirements of the profession
7. Apply emergency protocols.	• Accurate identification of alerts • Understanding of the measures in an emergency evacuation plan • Strict application of the protocol applicable to each specific situation • Effective collaboration with healthcare workers and other resource people, where applicable

Code: 01PZ

Objective *Standard*

Statement of the Competency	Achievement Context
Operate examination equipment that uses ionizing radiation and ultrasound.	• For situations requiring the use of radiographic, radioscopic, computed tomography, bone densitometry, mammographic or ultrasound equipment • To perform diagnostic examinations • As part of procedures performed during medical interventions • Based on current laws, regulations, standards and codes • Based to directives, protocols and standardized operational procedures • Using devices, equipment and accessories required for imaging, as well as protective equipment and products • Using manufacturers' handbooks, reference documents and archive systems

	Performance Criteria for the Competency as a Whole
	• Compliance with regulations • Compliance with procedures and protocols • Appropriate use of medical imaging terminology • Correct use of terminology related to the human body reference system (anatomical reference position, reference axes, cross-sections and planes, terms of location) • Production of diagnostic images that meet quality criteria

Elements of the Competency	Performance Criteria
1. Establish links between the production and propagation of different forms of energy and image acquisition.	• Appropriate distinction between the characteristics of different energy forms and acoustic wave properties • Accurate understanding of the interaction between ionizing radiation and matter • Accurate distinction between the various ionizing radiation devices and their accessories, components and functions • Proper application of the concepts and principles related to the use of diagnostic imaging equipment • Accurate explanation of the impact of acquisition parameters on the characteristics of the energy beam

Elements of the Competency	Performance Criteria

2. Produce images using ionizing radiation equipment.	• Accurate identification of links between the image produced and the type of ionizing radiation equipment used
	• Proper handling of the ionizing radiation equipment
	• Accurate identification of links between the handling of the equipment and the geometry of the image
	• Accurate identification of links between the choice of accessories, acquisition and pre-processing data parameters, and their impact on image quality
	• Judicious choice of accessories, acquisition and pre-processing data parameters depending on:
	  ○ The type of patient (adult or pediatric)
	  ○ The anatomical region
	  ○ The patient's overall condition
	  ○ Protocol
	  ○ Clinical information
	  ○ The pathology or information sought, etc.
	• Image orientation according to the anatomical reference position and the type of ionizing radiation equipment used

3. Produce images using ultrasound equipment for localization purposes.	• Accurate distinction between the structure of ultrasound equipment and its accessories, components and basic functions • Careful selection of technical parameters before, during and after image processing • Accurate understanding of arterial blood flow compared with venous blood flow • Judicious choice of the patient's position in order to obtain the best possible acoustic window • Image orientation according to the anatomical reference position and the position of the probe on the patient
4. Perform general maintenance of equipment and accessories.	• Thorough verification of the condition of the equipment and accessories • Accurate understanding of the deterioration affecting equipment and accessories • Strict application of recommendations from the manufacturer's preventive maintenance program • Recording of relevant information

Code: 01X0

Objective — *Standard*

Statement of the Competency	Achievement Context
Ensure that individuals are protected during diagnostic radiology examinations.	• When performing diagnostic examinations requiring the use of radiographic, radioscopic, computed tomography, bone densitometry, mammographic and magnetic resonance equipment • Based on current laws, regulations, standards and codes • Based on directives, protocols and standardized operational procedures • Using imaging equipment and accessories, and radiation measuring equipment and devices • Using manufacturers' handbooks, reference documents and archive systems

	Performance Criteria for the Competency as a Whole
	• Compliance with regulations • Compliance with protocols and procedures • Correct use of medical imaging terminology • Consideration of age, body habitus, overall condition, region of interest, clinical information and position • Production of diagnostic images that meet quality criteria

Elements of the Competency	Performance Criteria
1. Analyze the biological effects of ionizing and non-ionizing radiation on tissue.	• Accurate differentiation of the risks associated with exposure, depending on the type of radiation and level of exposure • Accurate recognition of the effects of exposure to ionizing radiation • Accurate recognition of the effects of exposure to a magnetic field and radiofrequency waves • Proper consideration of the level of tissue sensitivity to ionizing and non-ionizing radiation
2. Analyze the parameters that affect people's exposure level.	• Recognition of exposure tolerance levels for different categories of people (general public, patients, medical personnel, non-medical personnel) • Accurate identification of image acquisition parameters that affect exposure levels, for each modality • Accurate identification of protective equipment

Elements of the Competency	Performance Criteria

3. Prevent the risks associated with exposure to ionizing radiation, magnetic fields and radiofrequency waves.	• Accurate determination of acquisition parameters based on:
	  ○ Age
	  ○ Body habitus
	  ○ Clinical information
	  ○ Region of interest
	  ○ Positioning
	  ○ Apparatus used
	  ○ Examination protocol
	• Application of work methods to help reduce the radiation dose
	• Judicious choice of protective equipment:
	  ○ Leaded material
	  ○ Bismuth shield
	  ○ Noise reduction material, etc.
	• Consideration and maintenance of lowest-possible transmitted dose or specific absorption rate without loss of diagnostic information (ALARA or ALADA)
	• Thorough screening of the patient for the presence of objects sensitive to magnetic fields that may pose a risk
	• Accurate assessment of contraindications to performing a patient's examination
	• Thorough verification of devices and equipment compatibility with a magnetic field
	• Transmission of clear and complete safety instructions to other healthcare professionals

4. Consider the level of exposure to ionizing and non-ionizing radiation.	• Accurate understanding of factors influencing the dose • Accurate understanding of factors influencing the specific absorption rate • Accurate interpretation of results related to exposure level

5. Recognize the main organizations governing protection.	• Clear identification of the roles, powers and responsibilities of the various international, federal and provincial organizations governing protection
	• Compliance with current protection requirements and rules established by the various organizations and provided for in:
	  ○ Laws
	  ○ Safety codes
	  ○ Radiation protection standards and notices, etc.

Code: 01XQ

Objective — *Standard*

Statement of the Competency	Achievement Context
Operate examination equipment that uses a magnetic field and radiofrequencies.	• In situations that require the use of magnetic resonance equipment • To perform diagnostic examinations • As part of procedures performed during medical interventions • Based on current laws, regulations, standards and codes • Based on directives, protocols and standardized operational procedures • Using equipment, materials and accessories required for imaging, as well as protective devices and equipment • Using manufacturers' handbooks, reference documents and archive systems

	Performance Criteria for the Competency as a Whole
	• Compliance with regulations • Compliance with protocols and procedures • Correct use of medical imaging terminology • Correct use of terminology related to the human body reference system (anatomical reference position, reference axes, cross-sections and planes, terms of location) • Production of diagnostic images that meet quality criteria

Elements of the Competency	Performance Criteria
1. Establish links between the production and propagation of non-ionizing electromagnetic radiation and image acquisition.	• Appropriate differentiation of the characteristics and properties of non-ionizing electromagnetic radiation • Accurate recognition of the physical phenomena related to the application of non-ionizing electromagnetic radiation on tissues • Accurate recognition of magnetic resonance equipment and its accessories, components and functions • Correct application of the concepts and principles related to the use of diagnostic radiology equipment • Accurate recognition of the influence of acquisition parameters on the characteristics of magnetism

Elements of the Competency	Performance Criteria

2. Produce images using magnetic resonance equipment.	• Accurate identification of links between the image obtained, the types of sequencing and the data acquisition processes
	• Proper handling of the equipment and antenna
	• Accurate identification of links between the choice of accessories, acquisition and pre-processing data parameters and their impact on image quality
	• Judicious choice of accessories and acquisition parameters depending on:
	  ○ The type of patient (adult or pediatric)
	  ○ The anatomical region
	  ○ The patient's overall condition
	  ○ Protocol
	  ○ Clinical information
	  ○ The pathology or information sought, etc.
	• Image orientation according to the anatomical reference position

3. Apply emergency measures.	• Accurate identification of specific situations requiring quenching of superconductivity
	• Strict application of protocols for:
	  ○ Quenching of superconductivity
	  ○ Fire
	  ○ Emergencies

4. Perform general maintenance of equipment and accessories.	• Thorough verification of the condition of the equipment and accessories • Accurate understanding of the deterioration affecting equipment and accessories • Strict application of recommendations from the manufacturer's preventive maintenance program • Recording of relevant information

Code: 01XR

Objective — *Standard*

Statement of the Competency	Achievement Context
Analyze anatomical information related to diagnostic radiology examinations.	• When performing radiographic examinations • As part of procedures performed during medical interventions • For all the systems of the human body • Based on the medical prescription and the patient's file • Using anatomical models • Using reference documents, computer media and specialized software

	Performance Criteria for the Competency as a Whole
	• Correct use of medical terminology • Correct use of diagnostic radiology terminology • Correct use of terminology related to the human body reference system • Ability to convert 2-D images into a 3-D anatomical representation, or vice-versa

Elements of the Competency	Performance Criteria
1. Develop an integrated vision of the human body.	• Accurate spatial representation of the human body, based on the anatomical reference system • Accurate topographical identification of the organs and anatomical structures of the human organism • Accurate understanding of the structural organization of the human body, by system
2. Characterize the normal functioning of the human body systems and their related organs.	• Accurate description of the functions of the organs and anatomical structures that make up each system • Accurate understanding of the physiological characteristics of the systems • Highlighting of functional links between the various systems
3. Establish links between normal anatomy and anatomical variations.	• Accurate identification of anatomical variations according to genetics, gender, morphology, etc. • Differentiation of anatomical structures following a treatment or surgical procedure

Elements of the Competency	Performance Criteria

4. Establish links between anatomy and its conversion to a radiographic, ultrasound or magnetic resonance image.	• Accurate description of the characteristics of radiographic images:
	  ○ Density
	  ○ Contrast
	  ○ Hyperdense
	  ○ Hypodense, etc.
	• Accurate description of the characteristics of ultrasound images:
	  ○ Echogenic
	  ○ Homogenous
	  ○ Heterogeneous
	  ○ Anechogenic
	  ○ Hypoecogenic
	  ○ Hyperechogenic
	  ○ Isoechogenic
	• Accurate description of the characteristics of magnetic resonance images:
	  ○ Hypersignal
	  ○ Hyposignal, etc.
	• Accurate identification of links between the characteristics of the various modalities according to the organ or anatomical structure

Code: 01XS

Objective *Standard*

Statement of the Competency	Achievement Context
Analyze the pathological signs related to diagnostic radiology examinations.	• For adult and pediatric patients • For prevalent pathologies • For all systems of the human body • In collaboration with medical personnel or other healthcare professionals • Based on the medical prescription, the patient file and any observed or reported clinical signs • Using reference documents, diagnostic images, computer media and specialized software

	Performance Criteria for the Competency as a Whole
	• Compliance with regulations • Correct use of terminology specific to pathologies • Correct use of terminology related to the human body reference system (anatomical reference position, reference axes, cross-sections and planes, terms of location) • Effective use of reference works • Identification of links between prevalent pathologies and their conversion to diagnostic imaging

Elements of the Competency	Performance Criteria

1. Characterize the pathological processes leading to the clinical signs.	• Exact definition of the pathology
	• Identification of the causes of a pathology
	• Identification of the risk factors or aggravating factors of a pathology
	• Understanding of the following processes:
	  ○ Pain
	  ○ Inflammation
	  ○ Neoplasia
	  ○ Trauma
	  ○ Tissue repair, etc.

2. Establish links between clinical signs and prevalent pathologies.	• Recognition of the main clinical signs associated with the prevalent pathologies • Identification of relevant links between the clinical signs and pathological processes for each human body system • Accurate identification of the clinical signs of a life-threatening emergency (vagal shock, cardiorespiratory arrest, etc.)

Elements of the Competency	Performance Criteria
3. Establish links between radiographic signs and prevalent pathologies.	• Correct association of the most common characteristics or pathological signs, for each modality • Identification of the most conclusive pathological signs • Consideration of common anatomical variants in the recognition of pathologies • Accurate understanding of the most common characteristics or pathological signs, for each modality and according to the different developmental stages of a pathology

Code: 01XT

Objective	*Standard*
Statement of the Competency	**Achievement Context**
Optimize the quality of the diagnostic images.	• When performing diagnostic examinations • As part of procedures performed during medical interventions • Based on current laws, regulations, standards and codes • Based on directives, protocols and standardized operational procedures • Using imaging equipment, image processing systems, accessories and materials • Using technological media, specialized software and archiving media or systems • Using manufacturers' handbooks, forms, reference documents, etc.

	Performance Criteria for the Competency as a Whole
	• Compliance with regulations • Compliance with protocols and procedures • Judicious use of medical imaging technology • Production of diagnostic images that meet quality criteria

Elements of the Competency	**Performance Criteria**

1. Analyze the quality of the images obtained, based on the criteria specific to each method.	• Proper identification of the data associated with image identification:
	  ○ Analysis method
	  ○ Accession number
	  ○ Patient demographic data, etc.
	• Correct determination of field, positioning and optical quality criteria
	• Thorough verification of the field criteria:
	  ○ Inclusion of the region of interest
	  ○ Identification markers or annotations
	  ○ Collimation
	• Thorough verification of the positioning criteria for:
	  ○ The patient
	  ○ The region of interest
	• Thorough analysis of optical quality criteria for the images captured
	• Detection of the presence of artifacts on the images captured
	• Accurate determination of the types of artifacts present, if any
	• Consideration of the patient's limitations

Elements of the Competency	Performance Criteria
2. Perform post-processing of diagnostic images.	• Judicious choice of post-processing parameters based on exposure indicators, the information required and the artifacts identified • Refinement of image quality by adjusting post-processing parameters • Consideration of the limitations of the image optimization process • Correct identification of images that are suboptimal and must be repeated • Proper consideration of the parameters that must be changed to ensure that the replacement image is of the best possible quality

3. Archive diagnostic imaging data.	• Appropriate consideration of the different computer systems used in the healthcare system
	• Understanding of the different archiving processes used in the healthcare system
	• Appropriate understanding of the architecture of the archiving system
	• Clear identification of the responsibilities of the archiving system manager and medical imaging technologists with respect to:
	  ○ Confidentiality (policy, access privileges, etc.)
	  ○ Recording of data in the patient's file
	  ○ Changes or corrections to an examination
	  ○ Updating of memory space, etc.
	• Compliance with archiving procedures

Code: 01XU

Objective — *Standard*

Statement of the Competency	Achievement Context
Interact in a professional context.	• With co-workers, superiors and other healthcare professionals • With various types of patients and the persons accompanying them • In a variety of professional situations including diagnostic imaging examinations, medical interventions, professional meetings and appointments, training or information sessions, emergencies, etc. • Based on laws and regulations governing professional practice, as well as with standards of professional practice and the code of ethics • Based on the health institution's policies and procedures • Using the patient file, forms and other technical documentation • Using computer media, specialized software and means of communication

	Performance Criteria for the Competency as a Whole
	• Compliance with regulations • Compliance with the code of ethics • Due regard for the roles, responsibilities and competencies of other healthcare professionals • Correct use of medical terminology • Level of language adapted to the situation • Open-minded attitude and respect for the views of others • Adoption of attitudes and behaviours conducive to harmonious relationships • Tangible contribution to problem solving and decision making • Tangible solutions to help defuse interpersonal conflicts

Elements of the Competency	Performance Criteria
1. Interact as part of a work team.	• Application of an efficiency-focused approach when planning and organizing work • Demonstration of mutual help and solidarity with co-workers • Transmission of accurate and complete information at the appropriate time

Elements of the Competency	Performance Criteria
2. Establish professional relationships with patients and those accompanying them.	• Description of different types of patients and appropriate intervention strategies for each type • Use of a socially and culturally adapted interpersonal approach • Accurate perception and validation of the patient's physical, psychological and emotional state • Use of appropriate verbal and non-verbal communication techniques • Clarity and relevance of information requests made to patients or those accompanying them • Careful transmission of delicate information on the results of the examination • Verification that the information transmitted has been understood • Appropriate use of intervention strategies based on the patient's needs and one's own ability to meet them
3. Communicating as part of an interdisciplinary team.	• Accurate identification of roles and levels of competency within a team • Cautious use of one's power to influence • Affirmation of one's competency when the situation requires it • Demonstration of respect and solidarity with regard to the team's decisions

4. Prepare technical documents.	• Correct use of terminology and annotations
	• Summary of relevant elements in various documents, including:
	  ○ pre-examination questionnaire
	  ○ incident or accident report
	  ○ patient file, etc.
	• Transmission of precise, accurate, complete information
	• Rigorous application of the rules of syntax and grammar
	• Compliance with established policies and procedures when preparing documents

Code: 01XV

Objective — *Standard*

Statement of the Competency	Achievement Context
Provide care related to the practice of diagnostic radiology.	• When performing diagnostic examinations as part of procedures performed during medical interventions • To ensure continuity of care • In collaboration with other healthcare workers, where applicable • Based on a medical prescription • Based on the patient file • Based on the regulatory framework applicable to the field of diagnostic radiology and the code of ethics • Using established protocols, reference documents, forms, registers and other technical documents, where applicable • Using medical materials and equipment, products, medication, etc.

	Performance Criteria for the Competency as a Whole
	• Compliance with regulations • Compliance with the code of ethics • With due regard for the patient's moral and physical integrity • Compliance with rules applicable to health, safety, hygiene, cleanliness and the environment • Correct interpretation of the information • Demonstration of active listening, empathy, open-mindedness, ability to give comfort, etc. • Rigour and a concern for accuracy • Appropriate stress management • Use of an approach adapted to patients with specific medical conditions and particular needs • Constant, effective communication adapted to the situation

Elements of the Competency	Performance Criteria
1. Interpret data in the patient file concerning the examination.	• Meticulous verification of prior procedures and the main examination reports and results (notes in the patient file, ECG, prior surgeries and procedures, biopsy results, etc.) • Correct identification of the value and utility of laboratory tests for the diagnostic examination or medical intervention (blood work, etc.) • Accurate recognition of normal reference values • Accurate assessment of differences between the results and normal values

Elements of the Competency	Performance Criteria
	• Establishment of relevant links between the examination results and the tests, treatments, surgeries, clinical information and pathological status

2. Provide the necessary care.	• Proper assessment of the patient's physical and psychological state
	• Clear explanation of the procedure and the care, and the collaboration required from the patient
	• Maintenance of constant visual and auditory contact
	• Constant assessment of the patient's well-being, comfort and safety throughout the diagnostic examination or medical intervention
	• Provision of the care required before, during and after a diagnostic examination or medical intervention
	• Strict application of ergonomic principles to ensure that patients are moved and immobilized safely, where applicable
	• Proper use of related apparatus (oxygen, volumetric perfusion pump, etc.)
	• Careful verification of values obtained when monitoring vital signs
	• Proper application of the method used to insert and remove materials for the administration of medications or contrast agents:
	  ○ Intravenous catheter
	  ○ Catheters and tubes (urinary, rectal), etc.
	• Strict application of the principles of hygiene and asepsis:
	  ○ Hand washing
	  ○ Non-sterile protective clothing
	  ○ Sterile clothing
	  ○ Sterile tray and field
	  ○ Materials required for the procedure
	  ○ Dressings

3. Administer medications or other substances.	• Meticulous verification of the information on the medical prescription
	• Precise characterization of the medication or other substances, including:
	  ○ The integrity of the medication and other substances
	  ○ The physiological effects
	  ○ Dosage
	  ○ Administration route
	  ○ Medication absorption, bioprocessing, distribution and elimination mechanisms
	  ○ Undesirable, secondary or toxic effects
	  ○ Contraindications
	  ○ Drug interactions, etc.
	• Interpretation of data in the patient file concerning the examination

Elements of the Competency	Performance Criteria
	• Correct identification of the operating principle of an automatic injector, its components and its accessories • Appropriate use of the automatic injector • Compliance with principles and rules applicable to the preparation, dosage, verification and administration of medications or other substances

4. Take action in a medical emergency.	• Immediate detection of undesirable clinical signs
	• Rapid request for assistance from a resource person
	• Effective identification and application of the necessary emergency response measures:
	  ○ Safe environment
	  ○ First aid (oxygenation, hydration, cardiopulmonary resuscitation, etc.)
	  ○ Constant surveillance of vital functions
	• Appropriate use of the materials and equipment required for the emergency
	• Provision of assistance to the emergency team:
	  ○ Relevance of information given
	  ○ Effective collaboration
	  ○ Preparation of the necessary materials

5. Direct the patient to other resources.	• Referral of the patient to appropriate resources or practitioners • Clear and complete explanation of the instructions to be followed after the examination or procedure

6. Record the data in the patient file and in the registers.	• Accurate recording of information in the patient file concerning:
	  ○ The medical equipment used
	  ○ The medications and products administered
	  ○ Relevant clinical observations, etc.
	• Accurate and complete recording of data in the appropriate registers (controlled products, incidents, etc.)
	• Correct use of medical terminology

Code: 01XW

Objective	*Standard*

Statement of the Competency	**Achievement Context**
Perform quality control activities.	• In collaboration with the people responsible for the maintenance and repair of instrumentation and equipment • In collaboration with the medical team • Based on the health institution's regulations, policies and procedures, on a quality control protocol and on manufacturers' standards, etc. • Using diagnostic imaging equipment, technical equipment, anatomical components and measuring instruments such as phantoms, voltmeters, etc. • Using reference documents, working documents, etc. • Using technological media and specialized software

	Performance Criteria for the Competency as a Whole
	• Effective use of reference works • Correct use of medical imaging terminology • Concern for rigour and precision • Demonstration of a sense of responsibility • Effective communication with the people involved in monitoring the situation

Elements of the Competency	**Performance Criteria**
1. Assess the performance of diagnostic imaging equipment and related devices.	• Accurate understanding of quality indicators for examinations using ionizing radiation • Accurate understanding of specific quality indicators for mammographic examinations • Accurate understanding of specific quality indicators for examinations using non-ionizing radiation • Appropriate use of measuring tools • Verification of results in compliance with quality control standards and detection of non-compliant results • Accurate comparison of the actual situation with the desired situation
2. Analyze rejected images.	• Identification of the main causes of image rejection • Careful choice of different intervention methods

Elements of the Competency	Performance Criteria

3. Verify the compliance of disinfectant products, medical supplies and emergency medical equipment.	• Accurate understanding of the manufacturers' recommendations, including those related to:
	  ○ Storage conditions
	  ○ Shelf life
	  ○ Expiry date
	  ○ Preparation protocols
	  ○ Integrity, etc.
	• Functional verification of the medical equipment.

4. Verify the compliance of information entered in different documents.	• Recognition of the main documents used in diagnostic radiology • Understanding of the need for complete information required for record keeping • Verification of the relevance of the information recorded in the appropriate document
5. Communicate the results of quality control tests.	• Accurate description of the anomalies observed • Meticulous recording of relevant results in the appropriate register • Clear and precise transmission of information to the appropriate authority, where applicable

Code: 01XX

Objective	*Standard*
Statement of the Competency	**Achievement Context**
Perform radiographic examinations of the limbs, pelvis, spine and thorax.	• For adult and pediatric patients • For radiographic examinations of the limbs, spine and pelvis, sacrum, coccyx, thoracic cage and sternum • For bone densitometry examinations of the spine, hip and wrist • In collaboration with medical personnel and other healthcare professionals • Based on work lists, a medical prescription, the patient file and images obtained with different medical imaging modalities • Based on the regulatory framework applicable to the field of diagnostic radiology and on the health institution's policies and procedures • Using stationary or mobile radiographic equipment, bone densitometry equipment, protective equipment, medical supplies, emergency medical equipment, medications, products, etc. • Using technological media, specialized software, forms, reference documents, etc.

	Performance Criteria for the Competency as a Whole
	• Compliance with regulations • Compliance with the code of ethics • Compliance with protocols and procedures • Due regard for the patient's moral and physical integrity • Adaptation of the examination procedure to the working environment (patient's bedside, operating room, emergency room, etc.) • Careful and constant monitoring of the patient's clinical state • Constant communication adapted to the patient • Quality of communication with various persons • Correct use of medical terminology • Rigour and concern for precision • Optimal quality of diagnostic images • Constant vigilance regarding radiation protection measures

Elements of the Competency	Performance Criteria
1. Plan the work to be performed.	• Careful consultation of the work schedule • Accurate determination of priorities according to the type of examination, the urgency of each case, patient availability, etc. • Proper consultation with healthcare personnel, where applicable • Verification to ensure that the equipment and accessories are in safe working order • Proper execution of daily general maintenance of equipment and accessories • Verification of the availability of protective equipment, medical supplies, emergency medical equipment, medications, products, etc.

2. Correlate the information on the examination to be performed.	• Assignment of the medical prescription to the corresponding patient file
	• Accurate interpretation of:
	  ○ Data from the medical prescription
	  ○ The patient file
	  ○ Images from various imaging modalities
	• Verification of the information with the physician to prevent unnecessary radiation exposure, as needed
	• Determination of the type of investigation to be performed

3. Plan the examination.	• Proper preparation of:
	  ○ The examination room
	  ○ The radiographic or bone densitometry equipment
	  ○ The medical supplies and emergency medical equipment
	  ○ The products required
	  ○ Radiation protection devices and materials, etc.
	• Strict application of measures related to health, safety, hygiene, cleanliness and the environment
	• Choice of the appropriate examination protocol
	• Planning for additional images appropriate to the examination protocol, based on the medical history and clinical signs, or at the request of the medical specialist

Elements of the Competency	Performance Criteria
4. Take charge of the patient.	• Proper application of the greeting procedure • Accurate assessment of the patient's overall condition • Verification of proper patient preparation • Obtaining of patient consent • Consideration of the patient's overall condition and needs • Appropriate use of safe patient transfer and immobilization techniques • Consideration of the patient's well-being, relative comfort and safety throughout the examination • Strict application of the care required to perform the examination • Gaining of the patient's trust
5. Perform the diagnostic examination.	• Correct positioning of the patient based on anatomical landmarks and specific features • Precise alignment of the X-ray tube and receptor with the anatomical centering point, with due regard for the laws of optics • Judicious use of protective devices and equipment • Accuracy of markers or annotations added prior to image acquisition • Meticulous selection and adjustment of technical parameters, with due regard for radiation protection • Sequential execution of the procedure • Adaptation of the examination procedure to the patient's overall condition Transmission of relevant instructions Image taken at the appropriate time • Thorough assessment of the diagnostic quality of the images • Appropriate processing of acquired data • Acquisition of additional images, if necessary
6. Complete the examination.	• Transmission of clear and complete post-examination instructions to the patient • Release of the patient and assistance with transfer to the appropriate department, as needed • Tidying of the room and replacement of supplies and products, as needed • Strict application of hygiene, cleanliness and aseptic measures • Recording of the relevant information in the radiology file • Reconstruction of images, where necessary • Proper archiving of examination data in the clinical information system

Code: 01XY

Objective	*Standard*
Statement of the Competency	**Achievement Context**
Perform radiographic examinations of the head, respiratory system and abdomen.	• For adult and pediatric patients • For radiographic examinations of the skull, sinuses, facial bones, orbits, mandible, soft tissues of the neck, lungs, abdomen and urinary system • In collaboration with medical personnel and other healthcare professionals • Based on work lists, a medical prescription, the patient file and images obtained with different medical imaging modalities • Based on the regulatory framework applicable to the field of diagnostic radiology and the health institution's policies and procedures • Using stationary or mobile radiographic equipment, protective equipment, medical supplies, emergency medical equipment, medications, products, etc. • Using technological media, specialized software, forms, reference documents, etc.

	Performance Criteria for the Competency as a Whole
	• Compliance with regulations • Compliance with the code of ethics • Compliance with protocols and procedures • Due regard for the patient's moral and physical integrity • Adaptation of the examination procedure to the working environment (patient's bedside, operating room, emergency room, etc.). • Careful and constant monitoring of the patient's clinical state • Constant communication adapted to the patient • Quality of communication with various persons • Correct use of medical terminology • Rigour and concern for precision • Optimal quality of diagnostic images • Constant vigilance regarding radiation protection measures

Elements of the Competency	Performance Criteria
1. Plan the work to be performed.	• Careful consultation of the work schedule • Accurate determination of priorities according to the type of examination, the urgency of each case, patient availability, etc. • Proper communication with healthcare personnel, where applicable • Verification to ensure that the equipment and accessories are in safe working order • Proper execution of daily general maintenance of equipment and accessories • Verification of the availability of protective equipment, medical supplies, emergency medical equipment, medications, products, etc.

2. Correlate the information on the examination to be performed.	• Assignment of the medical prescription to the corresponding patient file
	• Accurate interpretation of:
	  ○ Data from the medical prescription
	  ○ The patient file
	  ○ Images from various imaging modalities
	• Verification of the information with the physician to prevent unnecessary radiation exposure, as needed
	• Determination of the type of investigation to be performed

3. Plan the examination.	• Proper preparation of:
	  ○ The examination room
	  ○ The radiographic equipment
	  ○ The medical supplies and emergency medical equipment
	  ○ The products required
	  ○ Radiation protection devices and equipment, etc.
	• Strict application of measures related to health, safety, hygiene, cleanliness and the environment
	• Choice of the appropriate examination protocol
	• Planning for additional images appropriate to the examination protocol, based on the medical history and clinical signs, or at the request of the medical specialist

Elements of the Competency	Performance Criteria
4. Take charge of the patient.	• Proper application of the greeting procedure • Accurate assessment of the patient's overall condition • Verification to ensure that the patient is properly prepared • Thorough verification of contraindications regarding the administration of medications or contrast agents • Obtaining of patient consent • Consideration of the patient's overall condition and needs • Appropriate use of safe patient transfer and immobilization techniques • Consideration of the patient's well-being, relative comfort and safety throughout the examination • Strict application of the care required to perform the examination • Gaining of the patient's trust
5. Perform the diagnostic examination.	• Correct positioning of the patient based on anatomical landmarks and specific features • Exact alignment of the X-ray tube and receptor with the central anatomical point, with due regard for the laws of optics • Careful use of protective devices and equipment • Accuracy of markers and annotations added before the image is acquired • Meticulous selection and adjustment of technical parameters, with due regard for radiation protection • Sequential execution of the procedure • Examination procedure adapted to the patient's overall condition • Strict application of techniques for the administration of the contrast agent, if necessary • Transmission of relevant instructions • Image acquired at the appropriate time • Thorough assessment of the diagnostic quality of the images • Appropriate processing of acquired data • Acquisition of additional images, if necessary

Elements of the Competency	Performance Criteria
6. Complete the examination.	• Transmission of clear and complete post-examination instructions to the patient • Strict application of techniques for the removal of catheters, where applicable • Release of the patient and assistance with transfer to the appropriate department, as needed • Tidying of the room and replacement of supplies and products, as needed • Strict application of hygiene, cleanliness and aseptic measures • Recording of the relevant information in the radiology file • Reconstruction of images, where necessary • Proper archiving of examination data in the clinical information system

Code: 01XZ

Objective	*Standard*
Statement of the Competency	**Achievement Context**
Perform mammographic examinations.	• For adult patients • For mammographic examinations of the breasts, with or without implants, and of the armpits • In collaboration with medical personnel or other healthcare professionals • Based on work lists, a medical prescription, the patient file and images obtained with different medical imaging modalities • Based on the regulatory framework applicable to the field of diagnostic radiology and on the health institution's policies and procedures • Based on public health programs • Using mammographic equipment, protective equipment, medical equipment, emergency medical equipment, medications, products, etc. • Using technological media, specialized software, forms, reference documents, etc.

	Performance Criteria for the Competency as a Whole
	• Compliance with regulations • Compliance with the code of ethics • Compliance with protocols and procedures • Due regard for the patient's moral and physical integrity • Careful and constant monitoring of the patient's clinical state • Constant communication adapted to the patient • Quality of communication with various persons • Correct use of medical terminology • Rigour and concern for precision • Optimal quality of diagnostic images • Constant vigilance regarding radiation protection measures

Elements of the Competency	Performance Criteria
1. Plan the work to be performed.	• Careful consultation of the work schedule • Accurate determination of priorities according to the type of examination, the urgency of each case, patient availability, etc. • Proper communication with healthcare personnel, where applicable • Verification to ensure that the equipment and accessories are in safe working order • Proper execution of daily general maintenance of equipment and accessories • Verification of the availability of protective equipment, medical equipment, emergency medical equipment, medications, products, etc.

2. Correlate the information on the examination to be performed.	• Assignment of the medical prescription to the corresponding patient file
	• Accurate interpretation of:
	  ○ Data from the medical prescription
	  ○ The patient file
	  ○ Images from various imaging modalities
	• Verification of the information with the physician to prevent unnecessary radiation exposure, as needed
	• Determination of the type of investigation to be performed

3. Plan the examination.	• Proper preparation of:
	  ○ The examination room
	  ○ The radiographic equipment
	  ○ The medical supplies and emergency medical equipment
	  ○ The products required
	  ○ Radiation protection devices and materials, etc.
	• Strict application of measures related to health, safety, hygiene, cleanliness and the environment
	• Choice of the appropriate examination protocol
	• Planning for additional images appropriate to the examination protocol, based on the medical history and clinical signs, or at the request of the medical specialist

Elements of the Competency	Performance Criteria
4. Take charge of the patient.	• Proper application of the greeting procedure • Accurate assessment of the patient's overall condition • Verification to ensure that the patient is properly prepared • Thorough verification of contraindications regarding the administration of medications or contrast agents • Obtaining of patient consent • Consideration of the patient's overall condition and needs • Appropriate use of safe patient transfer and immobilization techniques • Consideration of the patient's well-being, relative comfort and safety throughout the examination • Strict application of the care required to perform the examination • Gaining of the patient's trust
5. Perform the diagnostic examination.	• Correct positioning of the patient based on anatomical landmarks and specific features • Exact alignment of the X-ray tube and receptor with the central anatomical point, with due regard for the laws of optics • Careful use of protective devices and equipment • Accuracy of markers and annotations added before the image is acquired • Meticulous selection and adjustment of technical parameters or capture mode (e.g. tomosynthesis), with due regard for radiation protection • Sequential execution of the procedure • Adaptation of the examination procedure to the patient's overall condition • Strict application of techniques for the administration of the contrast agent, if necessary • Transmission of relevant instructions • Image acquired at the appropriate time • Thorough assessment of the diagnostic quality of the images • Appropriate processing of acquired data • Acquisition of additional images, if necessary
6. Characterize the steps related to a medical intervention procedure.	• Accurate understanding of typical medical interventions • Accurate identification of the steps in a medical intervention • Accurate identification of the technologist's role and activities

Elements of the Competency	Performance Criteria
7. Complete the examination.	• Transmission of clear and complete post-examination instructions to the patient • Release of the patient and assistance with transfer to the appropriate department, as needed • Tidying of the room and replacement of supplies and products, as needed • Strict application of hygiene, cleanliness and aseptic measures • Recording of the relevant information in the radiology file • Reconstruction of images, where necessary • Proper archiving of examination data in the clinical information system

Code: 01Z7

Objective	*Standard*
Statement of the Competency	**Achievement Context**
Perform radioscopic examinations.	• For adult and pediatric patients • For radioscopic examinations of the systems of the human body • For the following special radioscopic examinations: aspiration and drainage, fistulography, etc. • In collaboration with a medical specialist • In collaboration with medical personnel or other healthcare professionals • Based on work lists, a medical prescription, the patient file and images obtained with different medical imaging modalities • Based on the regulatory framework applicable to the field of diagnostic radiology and on the health institution's policies and procedures • Using stationary or mobile radioscopic equipment, protective equipment, medical supplies, emergency medical equipment, medications, products, etc. • Using technological media, specialized software, forms, reference documents, etc.

	Performance Criteria for the Competency as a Whole
	• Compliance with regulations • Compliance with the code of ethics • Compliance with protocols and procedures • Due regard for the patient's moral and physical integrity • Adaptation of the examination procedure to the working environment (patient's bedside, operating room, emergency room, etc.) • Careful and constant monitoring of the patient's clinical state • Constant communication adapted to the patient • Quality of communications with various persons • Correct use of medical terminology • Rigour and concern for precision • Optimal quality of diagnostic images • Constant vigilance regarding radiation protection measures

Elements of the Competency	Performance Criteria
1. Plan the work to be performed.	• Careful consultation of the work schedule • Accurate determination of priorities according to the type of examination, the urgency of each case, patient availability, etc. • Proper communication with caregiving personnel, where applicable • Verification to ensure that the equipment and accessories are in safe working order • Proper execution of daily general maintenance of equipment and accessories • Verification of the availability of protective equipment, medical equipment, emergency medical equipment, medications, products, etc.

2. Correlate the information with the examination to be performed.	• Assignment of the medical prescription to the corresponding patient file
	• Accurate interpretation of:
	  ○ data from the medical prescription
	  ○ the patient file
	  ○ images from various imaging modalities
	• Verification of the information with the physician to prevent unnecessary radiation exposure, as needed
	• Determination of the type of investigation to be performed

3. Plan the examination.	• Proper preparation of:
	  ○ The examination room
	  ○ The radioscopic equipment
	  ○ The medical supplies and emergency medical equipment
	  ○ The products required
	  ○ Radiation protection devices and equipment, etc.
	• Strict application of measures related to health, safety, hygiene, cleanliness and the environment
	• Choice of the appropriate examination protocol
	• Planning for additional images appropriate to the examination protocol, based on the medical history and clinical signs, or at the request of the medical specialist

Elements of the Competency	Performance Criteria
4. Take charge of the patient.	• Proper application of the greeting procedure • Accurate assessment of the patient's overall condition • Verification to ensure that the patient is properly prepared • Thorough verification of contraindications regarding the administration of medications or contrast agents • Obtaining patient consent • Consideration of the patient's overall condition and needs • Appropriate use of safe patient transfer and immobilization techniques • Consideration of the patient's well-being, relative comfort and safety throughout the examination • Strict application of the care required to perform the examination • Gaining of the patient's trust
5. Perform the diagnostic examination.	• Correct positioning of the patient based on anatomical landmarks and specific features • Exact alignment of the X-ray tube and receptor with the central anatomical point, with due regard for the laws of optics • Judicious use of protective devices and equipment • Accuracy of markers and annotations added before the image is acquired • Meticulous selection and adjustment of technical parameters, with due regard for radiation protection • Sequential execution of the procedure • Adaptation of the examination procedure to the patient's overall condition • Strict application of techniques for the administration of the contrast agent, if necessary • Transmission of relevant instructions • Image acquired at the appropriate time • Thorough assessment of the diagnostic quality of the images • Appropriate processing of acquired data • Acquisition of additional images, if necessary

Elements of the Competency	Performance Criteria
6. Participate in an intervention procedure.	• Preparation of forms (biomedical, consent, etc.) in accordance with procedures • Conscientious preparation of the patient for the intervention • Thorough preparation of the equipment required, depending on the type of intervention • Production of accurate radioscopic images during the intervention • Careful handling of samples to preserve their integrity (specimen container, slide, etc.) • Correct identification of samples • Strict application of post-intervention care (compression, dressing, etc.) • Routing of samples to the designated destinations
7. Complete the examination.	• Transmission of clear and complete post-examination instructions to the patient • Strict application of care techniques for the removal of catheters, where applicable • Release of the patient and assistance with transfer to the appropriate department, as needed • Tidying of the room and replacement of supplies and products, as needed • Strict application of hygiene, cleanliness and aseptic measures • Recording of the relevant information in the radiology file • Reconstruction of images, where necessary • Proper archiving of examination data in the clinical information system

Code: 01Z8

Objective	*Standard*
Statement of the Competency	**Achievement Context**
Perform angiographic examinations.	• For adult and pediatric patients • For radioscopic examinations of structures related to the circulatory system • For procedures performed during the following medical interventions: angioplasty, embolization, insertion of central vascular catheters, interventions involving the digestive and urinary systems, etc. • In collaboration with a medical specialist • In collaboration with medical personnel and other healthcare professionals • Based on work lists, a medical prescription, the patient file and images obtained with different medical imaging modalities • Based on the regulatory framework applicable to the field of diagnostic radiology and on the health institution's policies and procedures • Using radioscopic equipment, ultrasound equipment, an automatic injector, protective equipment, medical supplies, emergency medical equipment, medications, products, etc. • Using technological media, specialized software, forms, reference documents, etc.

	Performance Criteria for the Competency as a Whole
	• Compliance with regulations • Compliance with the code of ethics • Compliance with protocols and procedures • Due regard for the patient's moral and physical integrity • Careful and constant monitoring of the patient's clinical state • Constant communication adapted to the patient • Quality of communication with various persons • Correct use of medical terminology • Rigour and concern for precision • Optimal quality of diagnostic images • Constant vigilance regarding radiation protection measures

Elements of the Competency	Performance Criteria
1. Plan the work to be performed.	• Careful consultation of the work schedule • Accurate determination of priorities according to the type of examination, the urgency of each case, patient availability, etc. • Proper communication with caregiving personnel, where applicable • Verification to ensure that the equipment and accessories are in safe working order • Proper execution of daily general maintenance of equipment and accessories • Verification of the availability of protective equipment, medical supplies, emergency medical equipment, medications, products, etc.

2. Correlate the information with the examination to be performed.	• Assignment of the medical prescription to the corresponding patient file
	• Accurate interpretation of:
	  ○ Data from the medical prescription
	  ○ The patient file
	  ○ Images from various imaging modalities
	• Verification of the information with the physician to prevent unnecessary radiation exposure, as needed
	• Determination of the type of investigation to be performed

3. Plan the examination.	• Proper preparation of:
	  ○ The examination room
	  ○ The radioscopic equipment
	  ○ The ultrasound equipment
	  ○ The automatic injector
	  ○ The medical supplies and emergency medical equipment
	  ○ The products required
	  ○ Radiation protection devices and equipment, etc.
	• Strict application of measures related to health, safety, hygiene, cleanliness and the environment
	• Choice of the appropriate examination protocol
	• Planning for additional images appropriate to the examination protocol, based on the medical history and clinical signs, or at the request of the medical specialist

Elements of the Competency	Performance Criteria
4. Take charge of the patient.	• Proper application of the greeting procedure • Accurate assessment of the patient's overall condition • Verification to ensure that the patient is properly prepared • Thorough verification of contraindications regarding the administration of medications or contrast agents • Obtaining of patient consent • Consideration of the patient's overall condition and needs • Appropriate use of safe patient transfer and immobilization techniques • Consideration of the patient's well-being, relative comfort and safety throughout the examination • Strict application of the care required to perform the examination • Gaining of the patient's trust
5. Collaborate in the performance of the diagnostic examination.	• Correct positioning of the patient • Exact alignment of the X-ray tube and receptor with the central anatomical point, with due regard for the laws of optics • Careful use of protective devices and equipment • Accuracy of markers and annotations added before the image is acquired • Meticulous selection and adjustment of technical parameters, with due regard for radiation protection • Careful selection of settings for the automatic injector, where applicable • Sequential execution of the procedure • Assistance given to the medical specialist throughout the procedure • Strict application of techniques for the administration of the contrast agent, if necessary • Transmission of relevant instructions • Image acquired at the appropriate time • Thorough assessment of the diagnostic quality of the images • Appropriate processing of acquired data • Acquisition of additional images, if necessary

Elements of the Competency	Performance Criteria
6. Participate in a medical intervention procedure.	• Preparation of forms (biomedical, consent, etc.) in accordance with procedures • Conscientious preparation of the patient for the intervention • Thorough preparation of the equipment required, depending on the type of intervention • Meticulous handling of the equipment used for the intervention, in accordance with the medical specialist's instructions • Careful handling of samples to preserve their integrity (specimen container, slide, etc.) • Correct identification of samples • Strict application of post-intervention care (compression, dressing, etc.) • Routing of samples to the designated destinations
7. Complete the examination.	• Transmission of clear and complete post-examination instructions to the patient • Strict application of care techniques for the removal of catheters, where applicable • Release of the patient and assistance with transfer to the appropriate department, as needed • Tidying of the room and replacement of supplies and products, as needed • Strict application of hygiene, cleanliness and aseptic measures • Recording of the relevant information in the radiology file • Reconstruction of images, where necessary • Proper archiving of examination data in the clinical information system

Code: 01Z9

Objective	*Standard*
Statement of the Competency	**Achievement Context**
Perform computed tomography examinations of the head, spine and limbs.	• For adult and pediatric patients • For computed tomography examinations of the head, neck, facial bones, sinuses, orbits, spine and limbs, and the vessels related to the structures concerned • In collaboration with medical personnel and other healthcare professionals • Based on work lists, a medical prescription, the patient file and images obtained with different medical imaging modalities • Based on the regulatory framework applicable to the field of diagnostic radiology and on the health institution's policies and procedures • Using computed tomography equipment, an automatic injector, protective equipment, medical supplies, emergency medical equipment, medications, products, etc. • Using technological media, specialized software, forms, reference documents, etc.

	Performance Criteria for the Competency as a Whole
	• Compliance with regulations • Compliance with the code of ethics • Compliance with protocols and procedures • Due regard for the patient's moral and physical integrity • Careful and constant monitoring of the patient's clinical state • Constant communication adapted to the patient • Quality of communication with various persons • Correct use of medical terminology • Rigour and concern for precision • Optimal quality of diagnostic images • Constant attention to radiation protection measures

Elements of the Competency	Performance Criteria
1. Plan the work to be performed.	• Careful consultation of the work schedule • Accurate determination of priorities according to the type of examination, the urgency of each case, patient availability, etc. • Proper communication with caregiving personnel, where applicable • Verification to ensure that the equipment and accessories are in safe working order • Proper execution of daily general maintenance of equipment and accessories • Verification of the availability of protective equipment, medical supplies, emergency medical equipment, medications, products, etc.

2. Correlate the information with the examination to be performed.	• Assignment of the medical prescription to the corresponding patient file
	• Accurate interpretation of:
	  ○ Data from the medical prescription
	  ○ The patient file
	  ○ Images from various imaging modalities
	• Verification of the information with the physician to prevent unnecessary radiation exposure, as needed
	• Determination of the type of investigation to be performed

3. Plan the examination.	• Proper preparation of:
	  ○ The examination room
	  ○ The computed tomography equipment
	  ○ The automatic injector
	  ○ The medical supplies and emergency medical equipment
	  ○ The products required
	  ○ Radiation protection devices and equipment, etc.
	• Strict application of measures related to health, safety, hygiene, cleanliness and the environment
	• Choice of the appropriate examination protocol
	• Planning for additional images appropriate to the examination protocol, based on the medical history and clinical signs, or at the request of the medical specialist

Elements of the Competency	Performance Criteria
4. Take charge of the patient.	• Proper application of the greeting procedure • Accurate assessment of the patient's overall condition • Verification to ensure that the patient is properly prepared • Thorough verification of contraindications regarding the administration of medications or contrast agents • Obtaining of patient consent • Consideration of the patient's overall condition and needs • Appropriate use of safe patient transfer and immobilization techniques • Consideration of the patient's well-being, relative comfort and safety throughout the examination • Strict application of the care required to perform the examination • Gaining of the patient's trust
5. Perform the diagnostic examination.	• Correct positioning of the patient using anatomical landmarks • Exact positioning of the laser beams on the anatomical region • Careful use of protective devices and equipment • Meticulous selection and adjustment of technical parameters, with due regard for radiation protection • Judicious selection of settings for the automatic injector, where applicable • Strict application of techniques for the administration of the contrast agent or medication, if necessary • Sequential execution of the procedure • Adaptation of the examination procedure to the patient's overall condition • Transmission of relevant instructions • Images acquired at the appropriate time • Thorough assessment of the diagnostic quality of the images • Appropriate processing of acquired data • Acquisition of additional images, if necessary

Elements of the Competency	Performance Criteria
6. Participate in a medical intervention procedure.	• Preparation of forms (biomedical, consent, etc.) in accordance with procedures • Conscientious preparation of the patient for the intervention • Thorough preparation of the equipment required, depending on the type of intervention • Production of accurate cross-sectional images during the intervention • Careful handling of samples to preserve their integrity (specimen container, slide, etc.) • Correct identification of samples • Strict application of post-intervention care (compression, dressing, etc.) • Routing of samples to the designated destinations
7. Complete the examination.	• Transmission of clear and complete post-examination instructions to the patient • Strict application of care techniques for the removal of catheters, where applicable • Release of the patient and assistance with transfer to the appropriate department, as needed • Tidying of the room and replacement of supplies and products, as needed • Strict application of hygiene, cleanliness and aseptic measures • Recording of the relevant information in the radiology file • Reconstruction of images, where necessary • Proper archiving of examination data in the clinical information system

Code: 01ZA

Objective — *Standard*

Statement of the Competency	Achievement Context
Perform computed tomography examinations of the thorax, abdomen and pelvis.	• For adult and pediatric patients • For computed tomography examinations of the thorax, abdomen and pelvis, and the vessels related to the structures concerned • In collaboration with medical personnel and other healthcare professionals • Based on work lists, a medical prescription, the patient file and images obtained with different medical imaging modalities • Based on the regulatory framework applicable to the field of diagnostic radiology and on the health institution's policies and procedures • Using computed tomography equipment, an automatic injector, protective equipment, medical supplies, emergency medical equipment, medications, products, etc. • Using technological media, specialized software, forms, reference documents, etc.

	Performance Criteria for the Competency as a Whole
	• Compliance with regulations • Compliance with the code of ethics • Compliance with protocols and procedures • Due regard for the patient's moral and physical integrity • Careful and constant monitoring of the patient's clinical state • Constant communication adapted to the patient • Quality of communication with various persons • Correct use of medical terminology • Rigour and concern for precision • Optimal quality of diagnostic images • Constant attention to radiation protection measures

Elements of the Competency	Performance Criteria
1. Plan the work to be performed.	• Careful consultation of the work schedule • Accurate determination of priorities according to the type of examination, the urgency of each case, patient availability, etc. • Proper communication with caregiving personnel, where applicable • Verification to ensure that the equipment and accessories are in safe working order • Proper execution of daily general maintenance of equipment and accessories • Verification of the availability of protective equipment, medical supplies, emergency medical equipment, medications, products, etc.

2. Correlate the information with the examination to be performed.	• Assignment of the medical prescription to the corresponding patient file
	• Accurate interpretation of:
	  ○ Data from the medical prescription
	  ○ The patient file
	  ○ Images from various imaging modalities
	• Verification of the information with the physician to prevent unnecessary radiation exposure, as needed
	• Determination of the type of investigation to be performed

3. Plan the examination.	• Proper preparation of:
	  ○ The examination room
	  ○ The computed tomography equipment
	  ○ The automatic injector
	  ○ The medical supplies and emergency medical equipment
	  ○ The products required
	  ○ Radiation protection devices and equipment, etc.
	• Strict application of measures related to health, safety, hygiene, cleanliness and the environment
	• Choice of the appropriate examination protocol
	• Planning for additional images appropriate to the examination protocol, based on the medical history and clinical signs, or at the request of the medical specialist

Elements of the Competency	Performance Criteria
4. Take charge of the patient.	• Proper application of the greeting procedure • Accurate assessment of the patient's overall condition • Verification to ensure that the patient is properly prepared • Thorough verification of contraindications related to the administration of medications or contrast agents • Obtaining of patient consent • Consideration of the patient's overall condition and needs • Appropriate use of safe patient transfer and immobilization techniques • Consideration of the patient's well-being, relative comfort and safety throughout the examination • Strict application of the care required to perform the examination • Gaining of the patient's trust
5. Perform the diagnostic examination.	• Correct positioning of the patient using anatomical landmarks • Exact positioning of the laser beams on the anatomical region • Judicious use of protective devices and equipment • Meticulous selection and adjustment of technical parameters, with due regard for radiation protection • Judicious selection of settings for the automatic injector, where applicable • Strict application of techniques for the administration of the contrast agent or medication, if necessary • Sequential execution of the procedure • Adaptation of the examination procedure to the patient's overall condition • Transmission of relevant instructions • Images acquired at the appropriate time • Thorough assessment of the diagnostic quality of the images • Appropriate processing of acquired data • Acquisition of additional images, if necessary

Elements of the Competency	Performance Criteria
6. Participate in a medical intervention procedure.	• Preparation of forms (biomedical, consent, etc.) in accordance with the procedures • Conscientious preparation of the patient for the intervention • Thorough preparation of the equipment required, depending on the type of intervention • Production of accurate cross-sectional images during the intervention • Careful handling of samples to preserve their integrity (specimen container, slide, etc.) • Correct identification of samples • Strict application of post-intervention care (compression, dressing, etc.) • Routing of samples to the designated destinations
7. Complete the examination.	• Clear and complete post-examination instructions to the patient • Strict application of care techniques for the removal of catheters, where applicable • Release of the patient and assistance with transfer to the appropriate department, as needed • Tidying of the room and replacement of supplies and products, as needed • Strict application of hygiene, cleanliness and aseptic measures • Recording of the relevant information in the radiology file • Reconstruction of images, where necessary • Proper archiving of examination data in the clinical information system

Code: 01ZB

Objective — *Standard*

Statement of the Competency	Achievement Context
Perform magnetic resonance examinations of the head and spine.	• For adult and pediatric patients • For magnetic resonance examinations of the head, neck and spine, and the vessels related to the structures concerned • In collaboration with medical personnel and other healthcare professionals • Based on work lists, a medical prescription, the patient file and images obtained with different medical imaging modalities • Based on the regulatory framework applicable to the field of diagnostic radiology and on the health institution's policies and procedures • Using magnetic resonance equipment, antennas, an automatic injector, protective equipment, medical supplies, emergency medical equipment, medications, products, etc. • Using technological media, specialized software, forms, reference documents, etc.

	Performance Criteria for the Competency as a Whole
	• Compliance with regulations • Compliance with the code of ethics • Compliance with protocols and procedures • Due regard for the patient's moral and physical integrity • Careful and constant monitoring of the patient's clinical state • Constant communication adapted to the patient • Quality of communication with various persons • Correct use of medical terminology • Rigour and concern for precision • Optimal quality of diagnostic images • Constant vigilance regarding non-ionizing radiation protection measures

Elements of the Competency	Performance Criteria
1. Plan the work to be performed.	• Careful consultation of the work schedule • Accurate determination of priorities according to the type of examination, the urgency of each case, patient availability, etc. • Proper communication with caregiving personnel, where applicable • Verification to ensure that the equipment and accessories are in safe working order • Proper execution of daily general maintenance of equipment and accessories • Verification of the availability of protective equipment, medical supplies, emergency medical equipment, medications, products, etc.

2. Correlate the information with the examination to be performed.	• Assignment of the medical prescription to the corresponding patient file
	• Accurate interpretation of:
	  ○ Data from the medical prescription
	  ○ The patient file
	  ○ Images from various imaging modalities
	• Determination of the type of investigation to be performed

3. Plan the examination.	• Proper preparation of:
	  ○ The examination room
	  ○ The magnetic resonance equipment
	  ○ The antennas
	  ○ The automatic injector
	  ○ The medical supplies and emergency medical equipment
	  ○ The products required
	  ○ The protection devices and equipment, etc.
	• Strict application of measures related to health, safety, hygiene, cleanliness and the environment
	• Choice of the appropriate examination protocol
	• Planning for additional sequences appropriate to the examination protocol, based on the medical history and clinical signs, or at the request of the medical specialist

Elements of the Competency	Performance Criteria
4. Take charge of the patient.	• Proper application of the greeting procedure • Accurate assessment of the patient's overall condition • Thorough verification of contraindications regarding magnetic field exposure • Organization of additional relevant radiographic examinations if the presence of foreign bodies is suspected • Verification to ensure that the patient is properly prepared • Thorough verification of contraindications regarding the administration of medications or contrast agents • Obtaining of patient consent • Consideration of the patient's overall condition and needs • Appropriate use of safe patient transfer and immobilization techniques • Consideration of the patient's well-being, relative comfort and safety throughout the examination • Strict application of the care required to perform the examination • Gaining of the patient's trust
5. Perform the diagnostic examination.	• Correct positioning of the patient using anatomical landmarks • Exact positioning of the laser beams on the anatomical region • Judicious use of protective devices and equipment • Meticulous selection and adjustment of technical parameters, with due regard for radiation protection • Careful selection of settings for the automatic injector, where applicable • Strict application of techniques for the administration of the contrast agent or medication, if necessary • Sequential execution of the procedure • Adaptation of the examination procedure to the patient's overall condition • Transmission of relevant instructions • Images acquired at the appropriate time • Thorough assessment of the diagnostic quality of the images • Appropriate processing of acquired data • Additional sequences acquired, if necessary

Elements of the Competency	Performance Criteria
6. Participate in a medical intervention procedure.	• Preparation of forms (biomedical, consent, etc.) in accordance with the procedures • Conscientious preparation of the patient for the intervention • Thorough preparation of the equipment required, depending on the type of intervention • Production of accurate cross-sectional images during the intervention • Careful handling of samples to preserve their integrity (specimen container, slide, etc.) • Correct identification of samples • Strict application of post-intervention care (compression, dressing, etc.) • Routing of samples to the designated destinations
7. Complete the examination.	• Transmission of clear and complete post-examination instructions to the patient • Strict application of care techniques for the removal of catheters, where applicable • Release of the patient and assistance with transfer to the appropriate department, as needed • Tidying of the room and replacement of supplies and products, as needed • Strict application of hygiene, cleanliness and aseptic measures • Recording of the relevant information in the radiology file • Reconstruction of images, where necessary • Proper archiving of examination data in the clinical information system

Code: 01ZC

Objective	*Standard*
Statement of the Competency	**Achievement Context**
Perform magnetic resonance examinations of the limbs, abdomen and pelvis.	• For adult and pediatric patients • For magnetic resonance examinations of the limbs, abdomen and pelvis, and the vessels related to the structures concerned • In collaboration with medical personnel and other healthcare professionals • Based on work lists, a medical prescription, the patient file and images obtained with different medical imaging modalities • Based on the regulatory framework applicable to the field of diagnostic radiology and on the health institution's policies and procedures • Using magnetic resonance equipment, antennas, an automatic injector, protective equipment, medical supplies, emergency medical equipment, medications, products, etc. • Using technological media, specialized software, forms, reference documents, etc.

	Performance Criteria for the Competency as a Whole
	• Compliance with regulations • Compliance with the code of ethics • Compliance with protocols and procedures • Due regard for the patient's moral and physical integrity • Careful and constant monitoring of the patient's clinical state • Constant communication adapted to the patient • Quality of communication with various persons • Correct use of medical terminology • Rigour and concern for precision • Optimal quality of diagnostic images • Constant vigilance regarding non-ionizing radiation protection measures

Elements of the Competency	Performance Criteria
1. Plan the work to be performed.	• Careful consultation of the work schedule • Accurate determination of priorities according to the type of examination, the urgency of each case, patient availability, etc. • Proper communication with caregiving personnel, where applicable • Verification to ensure that the equipment and accessories are in safe working order • Proper execution of daily general maintenance of equipment and accessories • Verification of the availability of protective equipment, medical supplies, emergency medical equipment, medications, products, etc.

2. Correlate the information with the examination to be performed.	• Assignment of the medical prescription to the corresponding patient file
	• Accurate interpretation of:
	  ○ Data from the medical prescription
	  ○ The patient file
	  ○ Images from various imaging modalities
	• Determination of the type of examination to be performed

3. Plan the examination.	• Proper preparation of:
	  ○ The examination room
	  ○ The magnetic resonance equipment
	  ○ The antennas
	  ○ The automatic injector
	  ○ The medical supplies and emergency medical equipment
	  ○ The products required
	  ○ The protective devices and equipment, etc.
	• Strict application of measures related to health, safety, hygiene, cleanliness and the environment
	• Choice of the appropriate examination protocol
	• Planning for additional sequences appropriate to the examination protocol, based on the medical history and clinical signs, or at the request of the medical specialist

Elements of the Competency	Performance Criteria
4. Take charge of the patient.	• Proper application of the greeting procedure • Accurate assessment of the patient's overall condition • Thorough verification of contraindications regarding magnetic field exposure • Organization of additional relevant radiographic examinations if the presence of foreign bodies is suspected • Verification to ensure that the patient is properly prepared • Thorough verification of contraindications regarding the administration of medications or contrast agents • Obtaining of patient consent • Consideration of the patient's overall condition and needs • Appropriate use of safe patient transfer and immobilization techniques • Consideration of the patient's well-being, relative comfort and safety throughout the examination • Strict application of the care required to perform the examination • Gaining of the patient's trust
5. Perform the diagnostic examination.	• Correct positioning of the patient, using anatomical guidelines • Exact positioning of the laser beams on the anatomical region • Judicious use of protective devices and equipment • Meticulous selection and adjustment of technical parameters, with due regard for radiation protection • Judicious selection of settings for the automatic injector, where applicable • Strict application of techniques for the administration of the contrast agent or medication, if necessary • Sequential execution of the procedure • Adaptation of the examination procedure to the patient's overall condition • Transmission of relevant instructions • Images acquired at the appropriate time • Thorough assessment of the diagnostic quality of the images • Appropriate processing of acquired data • Acquisition of additional sequences, if necessary

Elements of the Competency	Performance Criteria
6. Participate in a medical intervention procedure.	• Preparation of forms (biomedical, consent, etc.) in accordance with the procedures • Conscientious preparation of the patient for the intervention • Thorough preparation of the equipment required, depending on the type of intervention • Production of accurate cross-sectional images during the intervention • Careful handling of samples to preserve their integrity (specimen container, slide, etc.) • Correct identification of samples • Strict application of post-intervention care (compression, dressing, etc.) • Routing of samples to the designated destinations
7. Complete the examination.	• Transmission of clear and complete post-examination instructions to the patient • Strict application of care techniques for the removal of catheters, where applicable • Release of the patient and assistance with transfer to the appropriate department, as needed • Tidying of the room and replacement of supplies and products, as needed • Strict application of hygiene, cleanliness and aseptic measures • Recording of the relevant information in the radiology file • Reconstruction of images, where necessary • Proper archiving of examination data in the clinical information system

Code: 01ZD

Objective *Standard*

Statement of the Competency	Achievement Context
Contribute to the ongoing improvement of the practice of diagnostic radiology.	• Taking into account the evolution of the profession • With a view to ongoing professional development • In collaboration with medical personnel and other healthcare professionals • Working with target groups • Based on the regulatory framework applicable to the field of diagnostic radiology • Based on analyses of cases and patients' files • Using didactic materials, reference documents, anatomical models, information technologies, etc. • Using technological media and specialized software

	Performance Criteria for the Competency as a Whole
	• Correct use of medical terminology • Demonstration of analysis and synthesis skills • Critical analysis of publications in the field • Quality of verbal communication • Quality of written work • Observance of intellectual property • Recognition of the importance of continuing professional development • Desire to make a significant contribution to the field of diagnostic radiology

Elements of the Competency	Performance Criteria
1. Contribute to the improvement of working documentation.	• Identification of particular needs in regards to omissions, updating of documents, new procedures, etc. • Effective consultation with resource people • Proposal of relevant means of improving working documentation
2. Organize training activities.	• Choice of relevant content, according to needs • Proper preparation of training activities (literature reviews, case analyses, etc.) • Proper use of communication techniques • Objective assessment of the training provided
3. Participate in awareness-raising activities with target groups.	• Demonstrating an open-minded attitude to the sharing of one's knowledge • Use of an approach adapted to the target audience • Transmission of accurate and relevant information • Recognition of the value of the field of diagnostic radiology

Elements of the Competency	Performance Criteria

4. Examine means of professional development.	• Realistic identification of one's abilities and limitations in terms of practical and theoretical knowledge of diagnostic radiology
	• Relevant analysis of approaches to professional development:
	  ○ publications
	  ○ conferences, seminars, professional development workshops
	  ○ training offered by various organizations, etc.

5. Characterize the parameters of a diagnostic radiology research protocol.	• Recognition of the main sources of available funding (granting agencies)
	• Recognition of prior studies through a literature review
	• Understanding of the methodology, taking into account:
	  ○ The research vehicle (experimentation, observation, etc.)
	  ○ The type of participant
	  ○ The sampling and recruitment procedures (methods)
	  ○ The data collection methods
	  ○ The variables and measuring instruments
	  ○ The sample size
	  ○ The statistical analyses (main statistical operations), etc.
	• Consideration of the ethical aspects (respect for participants' integrity, consent, confidentiality)
	• Recognition of different methods of publishing research results (reports, journals, publications, etc.).

General Education Component Common to All Programs and General Education Component Specific to the Program

English, Language of Instruction and Literature	Code: 4EA0

Objective ***Standard***

Statement of the Competency
Analyze and produce various forms of discourse.

Elements of the Competency	**Performance Criteria**
1. Identify the characteristics and functions of the components of literary texts.	• Accurate explanation of the denotation of words • Adequate recognition of the appropriate connotation of words • Accurate definition of the characteristics and function of each component
2. Determine the organization of facts and arguments of a given literary text.	• Clear and accurate recognition of the main idea and structure • Clear presentation of the strategies employed to develop an argument or thesis
3. Prepare ideas and strategies for a projected discourse.	• Appropriate identification of topics and ideas • Adequate gathering of pertinent information • Clear formulation of a thesis • Coherent ordering of supporting material
4. Formulate a discourse.	• Appropriate choice of tone and diction • Correct development of sentences • Clear and coherent development of paragraphs • Formulation of a 750-word discourse
5. Revise the work.	• Appropriate use of revision strategies • Appropriate revision of form and content

Learning Activities	
Discipline:	English, Language of Instruction and Literature
Weighting:	2-2-4 or 1-3-4
Credits:	2⅔

English, Language of Instruction and Literature	Code: 4EA1

Objective ***Standard***

Statement of the Competency
Apply a critical approach to literary genres.

Elements of the Competency	**Performance Criteria**
1. Distinguish genres of literary texts.	• Clear recognition of the formal characteristics of a literary genre
2. Recognize the use of literary conventions within a specific genre.	• Accurate recognition of the figurative communication of meaning • Adequate explanation of the effects of significant literary and rhetorical devices
3. Situate a work within its historical and literary period.	• Appropriate recognition of the relationship of a text to its period
4. Write a critical analysis of a literary genre.	• Selective use of appropriate terminology • Effective presentation of a 1000-word coherent response to a literary text
5. Revise the work.	• Appropriate use of revision strategies • Thorough revision of form and content

Learning Activities	
Discipline:	English, Language of Instruction and Literature
Weighting:	2-2-3
Credits:	2⅓

English, Language of Instruction and Literature	Code: 4EA2

Objective ***Standard***

Statement of the Competency
Apply a critical approach to a literary theme.

Elements of the Competency	**Performance Criteria**
1. Recognize the treatment of a theme within a literary text.	• Clear recognition of elements within the text, which define and reinforce a theme and its development • Adequate demonstration of the effects of significant literary and rhetorical devices
2. Situate a literary text within its cultural context.	• Appropriate recognition of a text as an expression of cultural context • Adequate demonstration of the effects of significant literary and rhetorical devices
3. Detect the value system inherent in a literary text.	• Appropriate identification of expression (explicit / implicit) of a value system in a text
4. Write a critical analysis exploring a literary theme.	• Selective use of appropriate terminology • Effective presentation of a 1000-word coherent response to a literary text
5. Revise the work.	• Appropriate use of revision strategies • Thorough revision of form and content

Learning Activities	
Discipline:	English, Language of Instruction and Literature
Weighting:	2-2-3
Credits:	2⅓

English, Language of Instruction and Literature	Code: 4EAP

Objective	*Standard*

Statement of the Competency
Communicate in the forms of discourse appropriate to one or more fields of study.

Elements of the Competency	**Performance Criteria**
1. Identify the forms of discourse appropriate to given fields of study.	• Accurate recognition of specialized vocabulary and conventions • Accurate recognition of the characteristics of the form of discourse • Exploration of a variety of topics
2. Recognize the forms of discourse appropriate to given fields of study.	• Clear and accurate recognition of the main ideas and structure • Appropriate distinction between fact and argument
3. Formulate an oral and a written discourse.	• Examine ways to address and structure a given topic • Appropriate choice of tone and diction • Correctly developed sentences • Clearly and coherently developed paragraphs • Appropriate use of program-related communication strategies including media and technology • Formulation of a 1000-word discourse
4. Revise the work.	• Appropriate use of revision strategies • Thorough revision of form and content

Learning Activities	
Discipline:	English, Language of Instruction and Literature
Hours of instruction:	60
Credits:	2

Humanities	Code: 4HU0

Objective ***Standard***

Statement of the Competency
Apply a logical analytical process to how knowledge is organized and used.

Elements of the Competency	**Performance Criteria**
1. Recognize the basic elements of a field of knowledge.	• Appropriate description of the basic elements • Appropriate use of terminology relevant to a field of knowledge
2. Define the modes of organization and utilization of a field of knowledge.	• Adequate definition of the dimensions, limits, and uses of a field of knowledge
3. Situate a field of knowledge within its historical context.	• Accurate identification of the main components in the historical development of a field of knowledge • Accurate description of the effects of historical development and social context on the limits and uses of a field of knowledge
4. Organize the main components into coherent patterns.	• Coherent organization of the main components
5. Produce a synthesis of the main components.	• Appropriate analysis of the components • Coherent synthesis of the main components • Appropriate expression, including a significant individual written component, of an analysis of the context, importance and implications of the organization and uses of knowledge • Appropriate use of revision strategies • Appropriate revision of form and content

Learning Activities	
Discipline:	Humanities
Weighting:	3-1-3
Credits:	2⅓

Humanities	Code: 4HU1

Objective ***Standard***

Statement of the Competency
Apply a critical thought process to world views.

Elements of the Competency	**Performance Criteria**
1. Describe world views.	• Accurate description of a society or group with a distinctive world view • Appropriate use of terminology relevant to these societies or groups
2. Explain the major ideas, values, and implications associated with a given world view.	• Adequate explanation of the salient components of a world view
3. Organize the ideas, values and experiences of a world view into coherent patterns.	• Coherent organization of ideas about a world view • Appropriate expression, including a significant individual written component, of an analysis of the context, importance, and implications of world views
4. Compare world views.	• Comparative analysis of these world views • Appropriate inclusion of central elements, relationships, and organizational principles of the societies or groups in the analysis
5. Convey the ideas, attitudes, and experiences of the societies or groups studied.	• Coherent integration of the importance and implications of the world views for the given societies or groups • Appropriate use of revision strategies • Appropriate revision of form and content

Learning Activities	
Discipline:	Humanities
Weighting:	3-0-3
Credits:	2

Humanities	Code: 4HUP

Objective ***Standard***

Statement of the Competency
Apply a critical thought process to ethical issues relevant to the field of study.

Elements of the Competency	**Performance Criteria**
1. Situate significant ethical issues in appropriate world views and fields of knowledge.	• Accurate recognition of the basic elements of ethical issues • Appropriate use of relevant terminology • Adequate identification of the main linkages with world views and fields of knowledge
2. Explain the major ideas, values, and social implication of ethical issues.	• Adequate description of the salient components of the issues
3. Organize the ethical questions and their implications into coherent patterns.	• Coherent organization of the ethical questions and their implications • Appropriate expression, including a significant individual written component, of an analysis of the context, importance and implications of the issues
4. Debate the ethical issues.	• Adequate development of substantiated argumentation including context and diverse points of view • Clear articulation of an individual point of view • Appropriate use of revision strategies • Appropriate revision of form and content

Learning Activities	
Discipline:	Humanities
Hours of instruction:	45
Credits:	2

French as a Second Language (Level I)	Code: 4SF0

Objective ***Standard***

Statement of the Competency
Apply basic concepts for communicating in standard French.

Elements of the Competency	**Performance Criteria**
1. Write and revise a simple text.	• Clear, coherent formulation of a text of about 250 words • Adequate development of the text: intention, topic, reader • Formulation of simple, well-constructed sentences • Use of adequate vocabulary for the task • Satisfactory application of the rules of grammar, in particular agreement in gender and number; regular verbs; verb tenses in the present, compound past and simple future • Satisfactory correction of errors in spelling or grammar • Appropriate use of revision strategies
2. Understand the meaning of a simple text.	• Accurate description of the general meaning and essential ideas of a 500-word text • Accurate identification of the difficulties in understanding the text • Appropriate use of reading techniques • Accurate identification of the main elements of the text
3. Convey a simple oral message.	• Clear and coherent formulation of an oral presentation of at least four minutes • Appropriate use of standard vocabulary • Clear and coherent statements
4. Understand the meaning of a simple oral message.	• Accurate identification of the general meaning and essential ideas of an oral message of at least four minutes • Accurate identification of the difficulties in understanding the message • Accurate description of the general meaning and essential ideas of the message

Learning Activities	
Discipline:	French as a Second Language
Weighting:	2-1-3
Credits:	2

French as a Second Language (Level II)	Code: 4SF1

Objective ***Standard***

Statement of the Competency
Communicate in standard French with some ease.

Elements of the Competency	**Performance Criteria**
1. Write and revise a simple text.	• Writing of a text of about 350 words • Respect for grammar and spelling rules • Appropriate use of the main elements of the corpus • Clear, coherent formulation of sentences • Coherent organization of paragraphs • Appropriate use of revision strategies • Satisfactory correction of spelling and grammatical errors
2. Interpret a written text.	• Accurate identification of the main ideas and structure of a text of 700 to 1 000 words • Accurate identification of the main elements of the text • Accurate explanation of the meaning of the words of the text
3. Produce a planned oral text.	• Clear and coherent formulation of an oral presentation of at least five minutes • Appropriate use of standard vocabulary • Respect for the level of language and rules of grammar and pronunciation
4. Interpret a simple oral text.	• Accurate identification of the main elements of an oral text of at least five minutes • Accurate identification of the ideas and subjects dealt with in the text • Accurate explanation of the meaning of the words of the text

Learning Activities	
Discipline:	French as a Second Language
Weighting:	2-1-3
Credits:	2

French as a Second Language (Level III)	Code: 4SF2

Objective ***Standard***

Statement of the Competency
Communicate with ease in standard French.

Elements of the Competency	**Performance Criteria**
1. Write a text of moderate complexity.	• Writing of a text of about 450 words • Respect for grammar and spelling rules • Adaptation to the intended audience • Appropriate use of the main elements of the corpus • Clear and coherent formulation of sentences, including at least three that are complex • Coherent organization of paragraphs
2. Revise and correct a text of moderate complexity.	• Appropriate use of revision strategies • Appropriate revision of the text
3. Comment on a written text of moderate complexity.	• Accurate identification of the main elements of a text of between 2 500 and 3 000 words • Accurate explanation of the meaning of the words of the text • Accurate identification of the main and secondary ideas, of facts and opinions • Accurate identification of what is implicit and what is explicit
4. Produce a planned oral text of moderate complexity.	• Clear and coherent formulation of an oral presentation of at least five minutes • Appropriate use of standard vocabulary • Respect for the level of language and rules of grammar and pronunciation • Adaptation to the intended audience • Appropriate sequencing of ideas

Learning Activities	
Discipline:	French as a Second Language
Weighting:	2-1-3
Credits:	2

French as a Second Language (Level IV)	Code: 4SF3

Objective ***Standard***

Statement of the Competency
Explore a cultural and literary topic.

Elements of the Competency	**Performance Criteria**
1. Write a text on a cultural or literary topic.	• Clear and coherent formulation of a text of about 550 words • Respect for the topic • Respect for grammar and spelling rules • Adaptation to the intended audience • Appropriate use of the main elements of the corpus • Clear articulation of a personal point of view
2. Revise and correct a text on a cultural or literary topic.	• Appropriate use of revision strategies • Appropriate revision of the text
3. Analyze a cultural or literary text.	• Personal formulation of the main elements of the text • Identification of the main themes • Identification of clues that help situate the text in its sociocultural and historical context • Accurate identification of the values expressed • Accurate identification of the structure of the text • Clear articulation of a personal point of view

Learning Activities	
Discipline:	French as a Second Language
Weighting:	3-0-3
Credits:	2

French as a Second Language (Level I)	Code: 4SFP

Objective ***Standard***

Statement of the Competency
Apply basic concepts for communicating in French in relation to the student's field of study.

Elements of the Competency	**Performance Criteria**
1. Write and revise a short text related to the student's field of study.	• Accurate identification of difficulties in writing • Appropriate use of writing techniques • Appropriate use of standard and specialized vocabulary • Clear and coherent formulation of the text • Appropriate use of revision strategies • Satisfactory correction of spelling and grammatical errors
2. Understand the meaning and characteristics of a text related to the student's field of study.	• Accurate identification of difficulties in understanding the text • Accurate identification of the characteristics of the text • Accurate identification of specialized vocabulary • Accurate identification of the main elements of the text • Accurate description of the general meaning and essential ideas of the text
3. Convey a simple oral message related to the student's field of study.	• Accurate identification of the difficulties in oral expression • Appropriate use of techniques of oral expression • Appropriate use of standard and specialized vocabulary • Intelligible expression of the message
4. Understand the meaning of a simple oral message related to the student's field of study.	• Accurate identification of difficulties in understanding the message • Accurate identification of the characteristics of the message • Accurate identification of specialized vocabulary • Accurate identification of the main elements of the message • Accurate description of the general meaning and essential ideas of the message

Learning Activities	
Discipline:	French as a Second Language
Hours of instruction:	45
Credits:	2

French as a Second Language (Level II)	Code: 4SFQ

Objective ***Standard***

Statement of the Competency
Communicate in French on topics related to the student's field of study.

Elements of the Competency	**Performance Criteria**
1. Write a text related to the student's field of study.	• Appropriate use of specialized vocabulary and of conventions specific to different types of texts • Respect for the level of language and rules of grammar and spelling • Clear and coherent formulation of the text • Appropriate use of writing techniques
2. Revise and correct a text on a topic related to the student's field of study.	• Appropriate use of revision strategies • Satisfactory correction of spelling and grammatical errors
3. Differentiate the types of texts specific to the student's field of study.	• Accurate identification of the formal characteristics of each of the main types of texts and the conventions used
4. Analyze texts representative of the student's field of study.	• Accurate identification of the main elements of the text • Accurate interpretation of specialized vocabulary • Accurate identification of the ideas and subjects dealt with • Appropriate use of reading and listening techniques

Learning Activities	
Discipline:	French as a Second Language
Hours of instruction:	45
Credits:	2

French, Second Language (Level III)	Code: 4SFR

Objective ***Standard***

Statement of the Competency
Communicate with ease in French on topics related to the student's field of study.

Elements of the Competency	**Performance Criteria**
1. Produce a text on a topic related to the student's field of study.	• Respect for the topic • Appropriate use of specialized vocabulary and the conventions specific to different types of texts • Respect for the level of language and rules of grammar and spelling • Clear and coherent formulation of the text • Appropriate sequencing of ideas • Appropriate form for the content
2. Revise and correct a text on a topic related to the student's field of study.	• Appropriate use of revision strategies • Satisfactory correction of spelling and grammatical errors
3. Comment on texts specific to the student's field of study.	• Accurate identification of the formal characteristics of the main types of texts and the conventions used • Accurate explanation of the meaning of the words in the text • Accurate identification of the structure of the text • Accurate reformulation of the main and secondary ideas, of the facts and opinions • Accurate use of specialized vocabulary

Learning Activities	
Discipline:	French as a Second Language
Hours of instruction:	45
Credits:	2

French as a Second Language (Level IV)	Code: 4SFS

Objective ***Standard***

Statement of the Competency
Produce and analyze a text in French on a topic related to the student's field of study.

Elements of the Competency	**Performance Criteria**
1. Write a text on a topic related to the student's field of study.	• Respect for the topic • Appropriate use of specialized vocabulary and the conventions specific to different types of texts • Appropriate choice of the main elements of the corpus based on the type of text • Clear and coherent formulation of the text • Respect for the level of language and rules of grammar and spelling • Clear articulation of a personal point of view
2. Revise and correct a text on a topic related to the student's field of study.	• Appropriate use of revision strategies • Satisfactory correction of spelling and grammatical errors
3. Analyze a text related to the student's field of study.	• Precise differentiation of the formal characteristics of specific types of texts • Personal formulation of the main elements • Listing of the main themes • Accurate identification of the structure of the text • Identification of clues that help situate the text in its context • Clear articulation of a personal point of view • Accurate association of elements of the text with the topic

Learning Activities	
Discipline:	French as a Second Language
Hours of instruction:	45
Credits:	2

Physical Education	Code: 4EP0

Objective ***Standard***

Statement of the Competency
Analyze one's physical activity from the standpoint of a healthy lifestyle.

Elements of the Competency	**Performance Criteria**
1. Establish the relationship between one's lifestyle habits and health.	• Proper use of documentation from scientific research or the media • Recognition of the influence of social and cultural factors on the practice of physical activity • Pertinent links made between one's lifestyle habits and the impact they have on health
2. Be physically active in a manner that promotes one's health.	• Respect for the rules specific to the physical activity practised • Respect for codes of ethics, safety rules and regulations when being physically active • Respect for one's abilities when practising physical activities
3. Recognize one's needs, abilities and motivational factors with respect to regular and sufficient physical activity.	• Appropriate use of strategies for the quantitative and qualitative evaluation of one's physical condition • Overall assessment of one's needs and abilities in terms of physical activity • Overall assessment of one's motivational factors with respect to being sufficiently active on a regular basis
4. Propose physical activities that promote one's health.	• Appropriate choice of physical activities according to one's needs, abilities and motivational factors • Use of clear reasoning to explain the choice of physical activity

Learning Activities	
Discipline:	Physical Education
Weighting:	1-1-1
Credits:	1

Physical Education	Code: 4EP1

Objective ***Standard***

Statement of the Competency
Improve one's effectiveness when practising a physical activity.

Elements of the Competency	**Performance Criteria**
1. Plan an approach to improve one's effectiveness when practising a physical activity.	• Initial assessment of one's abilities and attitudes when practising a physical activity • Statement of one's expectations and needs with respect to the ability to practise the activity • Appropriate formulation of personal objectives • Appropriate choice of the means to achieve one's objectives • Use of clear reasoning to explain the choice of physical activity
2. Use a planned approach to improve one's effectiveness when practising a physical activity.	• Respect for the rules and regulations of the physical activity • Respect for codes of ethics, safety rules and regulations when being physically active • Appropriate use of strategies for the quantitative and qualitative evaluation of one's motor skills • Periodic assessment of one's abilities and attitudes when practising a physical activity • Meaningful interpretation of progress made and the difficulties encountered in the practice of physical activity • Pertinent, periodic and proper adjustments of one's objectives or means • Appreciable improvement in one's motor skills, techniques or complex strategies required by the physical activity

Learning Activities	
Discipline:	Physical Education
Weighting:	0-2-1
Credits:	1

Physical Education	Code: 4EP2

Objective ***Standard***

Statement of the Competency
Demonstrate one's ability to assume responsibility for maintaining a healthy lifestyle through the continued practice of physical activity.

Elements of the Competency	**Performance Criteria**
1. Plan a personal physical activity program.	• Mention of priorities according to one's needs, abilities, and motivational factors with respect to being sufficiently active on a regular basis • Proper and appropriate formulation of personal objectives • Appropriate choice of physical activity or activities to achieve personal objectives • Appropriate planning of the conditions for performing the physical activity or activities in the personal program
2. Combine the elements of a regular and sufficient practice of physical activity as part of a healthy lifestyle.	• Respect for the rules and regulations of the physical activity • Respect for codes of ethics, safety rules and regulations when being physically active • Regular and sufficient practice of a physical activity while maintaining a balance between effectiveness and health-promoting factors
3. Manage a personal physical activity program.	• Appropriate choice of criteria for measuring the attainment of program objectives • Appropriate use of strategies for the quantitative and qualitative evaluation of one's physical activity • Periodic assessment of the time invested and activities practised during the program • Appropriate, periodic and proper adjustment of personal objectives or means used • Meaningful interpretation of the progress made and difficulties encountered in the practice of physical activities • Recognition of the effect of physical activity on one's lifestyle

Learning Activities	
Discipline:	Physical Education
Weighting:	1-1-1
Credits:	1

Complementary General Education Component

Social Sciences	Code: 000V

Objective — *Standard*

Statement of the Competency	Achievement Context
Estimate the contribution of the social sciences to an understanding of contemporary issues.	• Working alone • In an essay of approximately 750 words on the contribution of the social sciences to an understanding of contemporary issues • Using documents and data from the field of social sciences

Elements of the Competency	Performance Criteria
1. Recognize the focus of one or more of the social sciences and their main approaches.	• Formulation of the focus specific to one or more of the social sciences • Description of the main approaches used in the social sciences
2. Identify some of the issues currently under study in the social sciences.	• Association of issues with the pertinent areas of research in the social sciences
3. Demonstrate the contribution of one or more of the social sciences to an understanding of contemporary issues.	• Presentation of contemporary issues by highlighting the interpretation of the social sciences • Illustration of the interaction between certain social changes and the contribution of the social sciences

Learning Activities	
Hours of instruction:	45
Credits:	2
Note:	Use the 300 or 400 series of codes (except codes 300 and 360) to link a course to objective 000V. Use code 305 for a multidisciplinary course. Codes 340 and 345 may be used, provided the courses are not related to the objectives of common or specific general education.

Social Sciences	Code: 000W

Objective — *Standard*

Statement of the Competency	Achievement Context
Analyze one of the major problems of our time using one or more social scientific approaches.	• Working alone • In an essay of approximately 750 words on a topic related to human existence • Using reference materials from the field of social sciences

Elements of the Competency	Performance Criteria
1. Formulate a problem using one or more social scientific approaches.	• Presentation of the background to the problem • Use of appropriate concepts and language • Brief description of individual, collective, spatio-temporal and cultural aspects of the problem
2. Address an issue using one or more social scientific approaches.	• Clear formulation of an issue • Selection of pertinent reference materials • Brief description of historical, experimental and survey methods
3. Draw conclusions.	• Appropriate use of the selected method • Determination of appropriate evaluation criteria • Identification of strengths and weaknesses of the conclusions • Broadening of the issue analyzed

Learning Activities	
Hours of instruction:	45
Credits:	2
Note:	Use the 300 or 400 series of codes (except codes 300 and 360) to link a course to objective 000W. Use code 305 for a multidisciplinary course. Codes 340 and 345 may be used, provided the courses are not related to the objectives of common or specific general education.

Science and Technology	Code: 000X

Objective — *Standard*

Statement of the Competency	Achievement Context
Explain the general nature of science and technology and some of the major contemporary scientific or technological issues.	• Working alone • Using a written commentary on a scientific discovery or technological development • In an essay of approximately 750 words

Elements of the Competency	Performance Criteria
1. Describe scientific thinking and the standard scientific method.	• Brief description of the essential characteristics of scientific thinking, including quantification and demonstration • Ordered list and brief description of the essential characteristics of the main steps in the standard scientific method
2. Demonstrate how science and technology are complementary.	• Definition of terms and description of the primary ways in which science and technology are interrelated: logical and temporal connections, and mutual contributions
3. Explain the context and the stages related to several scientific and technological discoveries.	• Pertinent and coherent explanation of the relationship between the determining contexts related to several scientific and technological discoveries • Listing of the main stages of scientific and technological discoveries
4. Deduce different consequences and questions resulting from certain recent scientific and technological developments.	• Brief description of important consequences (of different types) and the current major challenges resulting from several scientific and technological discoveries • Formulation of relevant questions and credibility of responses to the questions formulated

Learning Activities	
Hours of instruction:	45
Credits:	2
Note:	Use the 100 or 200 series of codes to link a course to objective 000X. Use code 105 for a multidisciplinary course. Codes 109, 340 and 345 may be used, provided the courses are not related to the objectives of common or specific general education.

Science and Technology	000Y

Objective — *Standard*

Statement of the Competency	Achievement Context
Resolve a simple problem by applying the basic scientific method.	• Working alone or in groups • Applying the standard scientific method to a given, simple scientific and technological problem • Using common scientific instruments and reference materials (written or other)

Elements of the Competency	Performance Criteria
1. Describe the main steps of the standard scientific method.	• Ordered list and brief description of the characteristics of the steps of the standard scientific method
2. Formulate a hypothesis designed to solve a simple scientific and technological problem.	• Clear, precise description of the problem • Observance of the principles for formulating a hypothesis (observable and measurable nature of data, credibility, etc.)
3. Verify a hypothesis by applying the fundamental principles of the basic experimental method.	• Pertinence, reliability and validity of the experimental method used • Observance of established experimental method • Appropriate choice and use of instruments • Clear, satisfactory presentation of results • Validity of the connections established between the hypothesis, the verification and the conclusion

Learning Activities	
Hours of instruction:	45
Credits:	2
Note:	Use the 100 or 200 series of codes to link a course to objective 000Y. Use code 105 for a multidisciplinary course. Codes 109, 340 and 345 may be used, provided the courses are not related to the objectives of common or specific general education.

Modern Language	Code: 000Z

Objective *Standard*

Statement of the Competency	Achievement Context

Communicate with limited skill in a modern language.	• For modern Latin-alphabet languages:
	  ○ during a conversation consisting of at least eight lines of dialogue
	  ○ in a written text consisting of at least eight sentences
	• For modern non–Latin-alphabet languages:
	  ○ during a conversation consisting of at least six lines of dialogue
	  ○ in a written text consisting of at least six sentences
	• Based on learning situations on familiar themes
	• Using reference materials

Elements of the Competency	Performance Criteria
1. Understand the meaning of an oral message.	• Accurate identification of words and idiomatic expressions • Clear recognition of the general meaning of simple messages • Logical connection between the various elements of the message
2. Understand the meaning of a written message.	• Accurate identification of words and idiomatic expressions • Clear recognition of the general meaning of simple messages • Logical connection between the various elements of the message
3. Express a simple message orally.	• Appropriate use of language structures in main and coordinate clauses • Appropriate application of grammar rules • Use of verbs in the present indicative • Appropriate use of basic vocabulary and idiomatic expressions • Clear pronunciation • Coherent sequencing of simple sentences • Spontaneous and coherent sequencing of sentences in a conversation
4. Write a text on a given subject.	• Appropriate use of language structures in main and coordinate clauses • Appropriate application of basic grammar rules • Use of verbs in the present indicative • Appropriate use of basic vocabulary and idiomatic expressions • Coherent sequencing of simple sentences • Acceptable application of graphic rules for writing systems that do not use the Latin alphabet

Learning Activities	
Hours of instruction:	45
Credits:	2
Note:	The acquisition of a modern language requires an awareness of the culture of its native speakers. “Limited skill” refers to the limited use of language structures, grammar and vocabulary. This limitation varies depending on the complexity of the modern language. Use the 600 series of codes to link a course to objective 000Z, with the exception of codes 601, 602, 603 and 604.

Modern Language	Code: 0010

Objective

Standard

Statement of the Competency	Achievement Context
Communicate on familiar topics in a modern language.	• During a conversation that includes at least 15 lines of dialogue • In a written text consisting of at least 20 sentences for Latin-alphabet languages • In a written text consisting of at least 10 sentences for non–Latin-alphabet languages • Based on: • common situations in everyday life • simple topics from everyday life • Using reference materials

Elements of the Competency	Performance Criteria
1. Understand the meaning of an oral message.	• Accurate identification of words and idiomatic expressions • Clear recognition of the general meaning and essential ideas of messages of average complexity • Logical connection between the various elements of the message
2. Understand the meaning of a written message.	• Accurate identification of words and idiomatic expressions • Clear recognition of the general meaning and essential ideas of messages of average complexity • Logical connection between the various elements of the message
3. Express a simple message orally, using sentences of average complexity.	• Appropriate use of language structures in main or subordinate clauses • Appropriate application of grammar rules • Use of verbs in the present indicative • Appropriate use of enriched basic vocabulary and idiomatic expressions • Clear pronunciation • Coherent sequencing of sentences • Dialogue
4. Write a text on a given subject, using sentences of average complexity.	• Appropriate use of language structures in main or subordinate clauses • Appropriate application of grammar rules • Use of verbs in the present and past indicative • Appropriate use of enriched basic vocabulary and idiomatic expressions • Coherent sequencing of sentences of average complexity • Acceptable application of graphic rules for writing systems that do not use the Latin alphabet

Learning Activities	
Hours of instruction:	45
Credits:	2
Note:	The acquisition of a modern language requires an awareness of the culture of its native speakers. Use the 600 series of codes to link a course to objective 0010, with the exception of codes 601, 602, 603 and 604.

Modern Language	Code: 0067

Objective — *Standard*

Statement of the Competency	Achievement Context
Communicate with relative ease in a modern language.	• Working alone • During a conversation consisting of at least 20 lines of dialogue • In a written text of medium length (at least 25 sentences for Latin-alphabet languages and 15 sentences for other languages) • Given documents of a sociocultural nature • Using reference materials for the written text

Elements of the Competency	Performance Criteria
1. Understand the meaning of an oral message in everyday language.	• Accurate explanation of the general meaning and essential ideas of the message • Clear identification of structural elements of the language
2. Understand the meaning of a text of average complexity.	• Accurate explanation of the general meaning and essential ideas of the text • Clear identification of structural elements of the language
3. Have a conversation on a subject.	• Appropriate use of the structural elements of the language according to the message to be expressed • Appropriate use of everyday vocabulary • Accurate pronunciation and intonation • Normal flow in a conversation in everyday language • Coherence of the message expressed • Pertinent responses to questions
4. Write a text of average complexity.	• Appropriate use of the structural elements of the language according to the text to be written • Accurate vocabulary • Coherence of the text as a whole • Observance of presentation and writing rules applicable to the text

Learning Activities	
Hours of instruction:	45
Credits:	2
Note:	The acquisition of a modern language requires an awareness of the culture of its native speakers. Use the 600 series of codes to link a course to objective 0067, with the exception of codes 601, 602, 603 and 604.

Mathematics Literacy and Computer Science	Code: 0011

Objective — *Standard*

Statement of the Competency	**Achievement Context**
Recognize the role of mathematics or computer science in contemporary society.	• Working alone • In an essay of approximately 750 words • Using different personally selected concrete examples

Elements of the Competency	**Performance Criteria**
1. Demonstrate the acquisition of basic general knowledge of mathematics or computer science.	• Identification of basic notions and concepts • Identification of the main branches of mathematics or computer science • Appropriate use of terminology
2. Describe the evolution of mathematics or computer science.	• Descriptive summary of several major phases
3. Recognize the contribution of mathematics or computer science to the development of other areas of knowledge.	• Demonstration of the existence of important contributions, using concrete examples
4. Illustrate the diversity of mathematical or computer science applications.	• Presentation of a range of applications in various areas of human activity, using concrete examples
5. Evaluate the impact of mathematics or computer science on individuals and organizations.	• Identification of several major influences • Explanation of the way in which mathematics or computer science have changed certain human and organizational realities • Recognition of the advantages and disadvantages of these influences

Learning Activities	
Hours of instruction:	45
Credits:	2
Note:	Only the following codes can be used to link a course to objective 0011: 105, 201, 204, 420. Use code 204 for a multidisciplinary course. Codes 340 and 345 may be used, provided the courses are not related to the objectives of common or specific general education.

Mathematics Literacy and Computer Science	Code: 0012

Objective

Standard

Statement of the Competency	Achievement Context
Use various mathematical or computer science concepts, procedures and tools for common tasks.	• Working alone • While carrying out a task or solving a problem based on everyday needs • Using familiar tools and reference materials

Elements of the Competency	Performance Criteria
1. Demonstrate the acquisition of basic functional knowledge in mathematics or computer science.	• Brief definition of concepts • Correct execution of basic operations • Appropriate use of terminology
2. Select mathematical or computing tools and procedures on the basis of specific needs.	• Listing of numerous possibilities available through the use of mathematical and computing tools and procedures • Analysis of concrete situations and recognition of the usefulness of mathematical or computing tools and procedures • Appropriate choice according to needs
3. Use mathematical or computing tools and procedures to carry out tasks and solve problems.	• Use of a planned and methodical process • Correct use of tools and procedures • Satisfactory results, given the context • Appropriate use of terminology specific to a tool or procedure
4. Interpret the quantitative data or results obtained using mathematical or computing tools and procedures.	• Accurate interpretation, given the context • Clear, precise formulation of the interpretation

Learning Activities	
Hours of instruction:	45
Credits:	2
Note:	Only the following codes can be used to link a course to objective 0012: 105, 201, 204 and 420. Use code 204 for a multidisciplinary course. Codes 340 and 345 may be used, provided the courses are not related to the objectives of common or specific general education.

Art and Aesthetics	Code: 0013

Objective — *Standard*

Statement of the Competency	Achievement Context
Consider various forms of art produced according to aesthetic practices.	• Working alone • Given a specified work of art • In a written commentary of approximately 750 words

Elements of the Competency	Performance Criteria
1. Develop an appreciation for the dynamics of the imagination in art.	• Precise explanation of a creative process connected to the construction of an imaginary universe
2. Describe art movements.	• Descriptive list of the main characteristics of three art movements from different eras, including a modern movement
3. Give a commentary on a work of art.	• Coherent organization of observations, including identification of four fundamental elements of form and structure related to the language used as well as a reasoned description of the meaning of the work of art

Learning Activities	
Hours of instruction:	45
Credits:	2
Note:	Use the 500 series of codes (except 502) to link a course to objective 0013. Use code 504 for a multidisciplinary course. Codes 340, 345, 601, 602, 603 and 604 may be used, provided the courses are not related to the objectives of common or specific general education.

Art and Aesthetics	Code: 0014

Objective — *Standard*

Statement of the Competency	Achievement Context
Produce a work of art.	• Working alone • During a practical exercise • In the context of creating or interpreting a work of art • Using the basic elements of the language and techniques specific to the medium selected

Elements of the Competency	Performance Criteria
1. Recognize the primary forms of expression of an artistic medium.	• Identification of specific features: originality, essential qualities, means of communication, styles, genres
2. Use the medium.	• Personal, coherent use of elements of language • Satisfactory application of artistic techniques • Compliance with the requirements of the method of production

Learning Activities	
Hours of instruction:	45
Credits:	2
Note:	Use the 500 series of codes to link a course to objective 0014, with the exception of code 502. Use code 504 for a multidisciplinary course. Codes 340, 345, 601, 602, 603 and 604 may be used, provided the courses are not related to the objectives of common or specific general education.

Contemporary Issues	Code: 021L

Objective — *Standard*

Statement of the Competency	Achievement Context
Consider contemporary issues from a transdisciplinary perspective.	• Individually or in groups • Drawing on different fields of knowledge • Using documents and data from various disciplines

Elements of the Competency	Performance Criteria
1. Identify major contemporary issues.	• Exploration of various contemporary issues • Description of the main perspectives concerning these issues • Clear formulation of objects to study related to these issues
2. Recognize the specific role of several disciplines in the understanding of an issue.	• Identification of some of the theories used in analyzing the issue • Clear description of the concepts and methods used
3. Demonstrate the contribution of several disciplines to the understanding of an issue.	• Clear formulation of the perspectives of the issue • Precise description of the main contributions of the disciplines • Pertinent explanation of the interaction among various disciplines • Appropriate use of language and concepts from the disciplines

Learning Activities	
Hours of instruction:	45
Credits:	2
Note:	This objective lends itself to teaching by one or more teachers. Use code 365 to link a course to objective 021L in order to maintain the transdisciplinary nature of the competency.

Contemporary Issues	Code: 021M

Objective — *Standard*

Statement of the Competency	Achievement Context
Explore a contemporary issue from a transdisciplinary perspective.	• Individually or in groups • Drawing on different fields of knowledge • Using documents and data from various disciplines

Elements of the Competency	Performance Criteria
1. Present a research problem.	• Justification of the choice of research problem • Brief description of the main issues involved in the problem • Clear formulation of the main dimensions of the problem • Appropriate use of language and concepts from the disciplines • Clear formulation of the research question
2. Analyze the research problem.	• Relevant description of a research approach or method • Appropriate selection of research data • Proper application of the approach or method used • Appropriate use of an analytical framework
3. Propose solutions.	• Clear description of the main contributions from the disciplines • Pertinent explanation of the interaction among various disciplines • Justification of solutions proposed • Assessment of the strengths and weaknesses of the proposed solutions

Learning Activities	
Hours of instruction:	45
Credits:	2
Note:	This objective lends itself to teaching by one or more teachers. Use code 365 to link a course to objective 021M in order to maintain the transdisciplinary nature of the competency.

Additional Information

Vocabulary Used in Technical Programs

Program

A program is an integrated set of learning activities leading to the achievement of education objectives based on set standards (*College Education Regulations,* s. 1). All college programs include a general education component common to all programs; a general education component adapted to the specific program; a complementary general education component; and a program-specific component (*College Education Regulations,* s. 6).

Competency

In the program-specific component of a technical program, a competency is defined as the ability to act, succeed and evolve in order to adequately perform tasks or work-related activities, based on an organized body of knowledge (including elements of knowledge, skills in a variety of fields, perceptions, attitudes, etc.) (*Élaboration des programmes d'études techniques*, *Cadre général – Cadre technique 2002*, p. 15).

Objective

An objective is defined as the competency, skills or knowledge to be acquired or mastered (*College Education Regulations,* s. 1). Each objective is formulated in terms of a competency and includes a statement of the competency and its elements. The achievement of objectives and respect for the standards ensure the acquisition or mastery of the college-level general education competencies.

Statement of the Competency

In the program-specific component of a technical program, the statement of the competency is the result of an analysis of the needs of the job situation, the general goals of technical training and (in some cases) other factors. In the general education components, it is the result of an analysis of the needs of general education.

Elements of the Competency

In the program-specific component of a technical program, the elements of the competency include only what is necessary in order to understand and master the competency. They refer to the major steps involved in performing a task or to the main components of the competency.

In the general education components, the elements of an objective, formulated in terms of a competency, specify the main aspects of the competency.

Hours of instruction (contact hours)

Hours of instruction are units for calculating the breakdown of teaching time, i.e. the length of time a student spends under the supervision of a teacher, in a class or laboratory, or during a practicum.

Standard

A standard is defined as the level of performance at which an objective is considered to be achieved (*College Education Regulations,* s. 1). In the program-specific component of a technical program, it is composed of an achievement context and performance criteria.

Performance Criteria

In the program-specific component of a technical program, the performance criteria define requirements by which to judge the attainment of each element of the competency and hence of the competency itself. The performance criteria are based on the requirements at entry level on the job market. Each element of the competency requires at least one performance criterion.

In the general education components, the performance criteria define the requirements for recognition of the attainment of the standard.

In both components, all the criteria must be respected for the objective to be recognized as having been attained.

Achievement Context

In the program-specific component of a technical program, the achievement context corresponds to the situation in which the competency is exercised at entry-level on the job market. The achievement context does not specify the context for learning or evaluation.

Learning Activities

In the program-specific component of a technical program, the learning activities are classes (or labs, workshops, seminars, practicums or other educational activities) designed to ensure the attainment of the targeted objectives and standards. Colleges are entirely responsible for defining the learning activities and applying the program-based approach.

In the general education components, the elements of the learning activities that may be determined in whole or in part by the Minister are the field of study, the discipline(s), the weightings, the number of contact hours, the number of credits and any details deemed essential.

Harmonization

The Ministère de l'Éducation et de l'Enseignement supérieur harmonizes its vocational and technical programs by establishing similarities and continuity between secondary- and college-level programs within a particular sector or between sectors, in order to avoid overlap in program offerings, recognize prior learning and facilitate the students' progress.

Harmonization establishes consistency between training programs and is especially important in ensuring that the tasks of a trade or occupation are clearly identified and described. Harmonization makes it possible to identify tasks requiring competencies that are common to more than one program. Even if there are no common competencies, training programs are still harmonized.

Harmonization is said to be "inter-level" when it focuses on training programs at different levels, "intra-level" when it focuses on programs within the same educational level, and "inter-sector" when carried out between programs in various sectors.

An important aspect of harmonization is that it allows the common features of competencies to be identified and updated as needed. Common competencies are those that are shared by more than one program; once acquired in one program, they can be recognized as having been acquired in another. Competencies with exactly the same statement and elements are said to be identical. Common competencies that are not identical but have enough similarities to be of equal value are said to be equivalent.

Harmonization of the *Diagnostic Imaging* program has resulted in identifying competencies that are shared with other programs. Detailed information on the harmonization of this program and its results are presented in the document entitled *Tableaux d'harmonisation, Technologie de radiodiagnostic.*

Occupational Health and Safety Hazards

This section expands on the risks associated with the competencies in the *Diagnostic Imaging* program.

The table below, “Sources and risk levels for each competency,” links competencies with the six sources of risk listed in the following typology. It also indicates whether the risk level is high or low. These levels of risk are provided for information purposes only since they vary depending on the operations performed and the achievement context. The table serves as a guide for teachers to planning progressive learning activities, a way of organizing their teaching in compliance with occupational health and safety in the workplace.

Typology of occupational health and safety in the workplace with a list of dangers and hazardous situations:

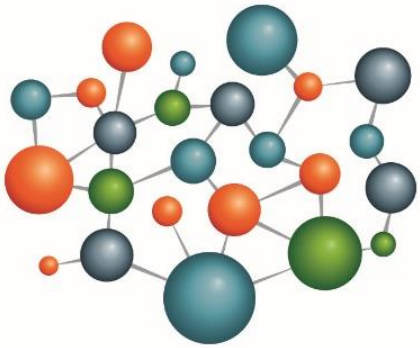
- Chemical hazards or dangers:
  - Form of substance (solid, liquid, aerosol, gas, etc.) and exposure (inhalation, absorption through the skin, ingestion, etc.)
- Physical hazards or dangers:
  - Electrical hazards
  - Thermal hazards
  - Noise
  - Vibration
  - Other physical hazards
- Biological hazards or dangers:
  - Form of substance (dust, mist, fluid, etc.) and exposure (inhalation, absorption through the skin, ingestion, cuts, etc.)
- Ergonomic hazards or dangers:
  - Constrained postures
  - Excessive effort
  - Repetitive movements
- Safety hazards or dangers:
  - Hazards related to general mechanical phenomena
  - Hazards related to moving parts, tools or vehicles
  - Risk of falling (workers and objects)
  - Hazards linked to confined spaces
  - Fire or explosion hazards
  - Violence in the workplace
- Psychosocial hazards or dangers:
  - Factors associated with the nature of the work
  - Factors related to the organization of the work
  - Social factors

TABLE: SOURCES AND RISK LEVELS FOR EACH COMPETENCY								
COMPETENCY NUMBER	***DIAGNOSTIC IMAGING***	**Sources of risk**						
		Chemical hazards or dangers	Physical hazards or dangers	Biological hazards or dangers	Ergonomic hazards or dangers	Safety hazards or dangers	Psychosocial hazards or dangers
	STATEMENT OF THE COMPETENCY	1	2	3	4	5	6
1	Analyze the profession and the regulatory framework						
2	Prevent risks related to health, safety, hygiene, cleanliness and the environment	○		●	●	●	●
3	Operate examination equipment that uses ionizing radiation and ultrasound	○	●		○	○	
4	Ensure that individuals are protected during diagnostic radiology examinations		●				●
5	Operate examination equipment that uses a magnetic field and radiofrequencies	○	○		○	○	
6	Analyze anatomical information related to diagnostic radiology examinations						
7	Analyze the pathological signs related to diagnostic radiology examinations						
8	Optimize the quality of the diagnostic images						○
9	Interact in a professional context					○	○
10	Provide care related to the practice of diagnostic radiology	○		●	○	○	●
11	Perform quality control activities				○		
12	Perform radiographic examinations of the limbs, pelvis, spine and thorax	○	●	○	●	○	●
13	Perform radiographic examinations of the head, respiratory system and abdomen	○	●	○	●	○	●
14	Perform mammographic examinations	○	●	○	●	○	●
15	Perform radioscopic examinations	○	●	○	●	○	●
16	Perform angiographic examinations	●	●	●	●	○	●
17	Perform computed tomography examinations of the head, spine and limbs	○	●	○	●	○	●
18	Perform computed tomography examinations of the thorax, abdomen and pelvis	○	●	○	●	○	●
19	Perform magnetic resonance examinations of the head and spine	○	●	○	●	●	●
20	Perform magnetic resonance examinations of the limbs, abdomen and pelvis	○	●	○	●	●	●
21	Contribute to the ongoing improvement of the practice of diagnostic radiology						

Risk levels

Risk levels are indicated according to their frequency, duration or intensity, and not according to the severity of their effects on personal health and safety.

Low risk: ○ High risk: ●



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