

# Strategic Program of Radiology Department (2022–2026)

When Wilhelm Röntgen discovered X-rays in 1896, few could have imagined that years later this mysterious ray would become the “third eye” of physicians, producing valuable diagnostic information from inside the body. Radiology is one of the rare medical professions where clinical knowledge and theoretical physics beautifully merge. Over the past decades, technology has advanced at a breathtaking pace: radiography, CT scan, MRI, nuclear medicine including SPECT and PET are continuously evolving. Today, molecular imaging—capable of monitoring and visualizing organ and cellular metabolism—provides physicians with not only anatomical information but also molecular and metabolic insights for early diagnosis.

The Radiology Department of the Faculty of Paramedical Sciences began its activities in 1991 by training students in associate and bachelor programs. In 2016, the Master’s program in Medical Imaging Technology was approved, making this department the only radiology group in the country offering graduate-level education. This achievement is thanks to the presence of capable and innovative students and faculty members. In line with its educational and research mission, the department has always strived to advance steadily toward scientific excellence and to keep pace with modern developments in education and research.

The department is responsible for training specialized and committed professionals in medical imaging, conducting effective and applied research in this field, and collaborating with imaging centers to provide scientific and technical consultation.

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## Internal Stakeholders:

- Radiology students
- Faculty members and staff
- Dean and vice-deans of the faculty

## External Stakeholders:

- The public and patients
- Affiliated educational centers and hospitals

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## Mission:

The Diagnostic Radiology Department of the Faculty of Paramedical Sciences, Tabriz University of Medical Sciences, is tasked with training radiology experts. It is the only radiology

department nationwide offering a Master's program in Medical Imaging Technology. Its mission includes:

1. Training competent, committed, and ethical professionals in medical imaging services.
  2. Training creative, entrepreneurial, and innovative professionals to move toward becoming a third-generation university.
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## **Vision:**

The Diagnostic Radiology Department aims to become a leading educational, research, and service model among similar departments nationwide, with graduates recognized as exemplars of commitment, service, and ethics.

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## **Values:**

Training competent, creative, and ethical professionals ensures the quality of medical imaging services, protects people against harmful effects of X-rays, and promotes public health and well-being.

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# **Strategy One: Improving Educational Quality**

## **G1: Enhancing Teaching Methods**

- Annual educational needs assessment of faculty and students
- Guiding faculty and students to attend teaching and learning workshops
- Updating course syllabi and presenting them at the first session
- Standardizing exam questions and preparing blueprints
- Reducing average study duration of students
- Increasing students' GPA averages
- Using modern teaching methods: flipped classroom, TBL, PBL
- Improving faculty evaluation scores in the "Faran" system
- Encouraging fair student evaluations of faculty
- Training graduate students in teaching skills
- Enhancing hospital-based training quality with 360-degree evaluations
- Improving logbooks and evaluation methods

## **G2: Enhancing Human Resources and Educational Facilities**

- Recruiting at least two medical physics faculty (nuclear medicine and non-ionizing imaging)
  - Recruiting two radiology staff for administrative and educational tasks
  - Expanding and separating laboratories
  - Upgrading dosimetry and quality control lab equipment
  - Increasing computers in image processing labs
  - Updating faculty computers
  - Converting contracted faculty to permanent positions
  - Collaborating with medical education departments for modern teaching skills
  - Continuing graduate student admissions in Medical Imaging Technology
  - Preparing to admit PhD students in Molecular and Neuroimaging
  - Revising hospital internships and strengthening collaboration with hospital staff
  - Revising undergraduate and graduate logbooks
  - Organizing faculty advisor system
  - Reviewing curricula biennially based on Ministry of Health reforms
  - Updating news on the department website
  - Creating alumni networks for outcome tracking (CIPP model)
  - Developing indicators for student performance monitoring
  - Establishing a radiology clinical skills center
  - Improving training in technical services and quality control of imaging equipment
  - Strengthening ties with hospitals, imaging centers, and radiology associations
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## **Strategy Two: Research Goals**

- Increasing patents
- Establishing knowledge-based companies and producing products
- Conducting applied research with product-oriented vision
- Research based on community needs
- Collaborating with domestic and international universities
- Securing national and internal grants
- Collaborating with research centers via MOUs
- Increasing publications in international journals (Q1/Q2)
- Increasing conference presentations
- Authoring and translating reference books
- Establishing research cores and teams in radiology
- Joint theses with other universities nationally and internationally
- Continuing journal club sessions
- Increasing research projects annually
- Promoting educational research and scholarship
- Upgrading computational and hardware facilities in image processing labs
- Encouraging student participation in research workshops and conferences

- Collaborating with industry for problem-solving research
  - Encouraging faculty participation in interdisciplinary research
  - Collaborating with knowledge-based companies for technology-driven research
  - Signing contracts with knowledge-based companies to use modern technologies
  - Establishing research labs offering services to other departments
  - Cross-departmental collaboration with hospitals for community-oriented research
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## Strategy Three: Enhancing Executive and Service Activities

- Organizing workshops and training courses in radiology
  - Collaborating with the university's continuing education center
  - Collaborating with hospitals and imaging centers for mutual needs
  - Increasing faculty participation in educational and research administration
  - Seeking faculty membership in national medical physics boards
  - Producing virtual educational content
  - Collaborating with provincial and national radiology associations
  - Participating in national and provincial congresses
  - Establishing a scientific-research journal in ionizing radiation, imaging, and radiotherapy
  - Strengthening ties with hospitals, imaging centers, and radiology associations
  - Cross-departmental collaboration with hospitals for community-oriented research
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