

# **Erasmus Radiography Programme – Palacký University Olomouc**

**Faculty of Health Sciences | Institute of Radiological Methods**

**Duration:** 13 weeks

**Total Core Credits:** 20 ECTS

**Optional Modules:** up to +4 ECTS

**Language of Instruction:** English

---

## **Programme Overview**

The Erasmus exchange programme at Palacký University offers students a balanced combination of academic education, applied teaching, and personalised clinical experience in a multidisciplinary imaging environment. Clinical placements are conducted at the University Hospital Olomouc (FNOL), one of the most advanced teaching hospitals in the Czech Republic.

---

## **Weeks 1 & 6 – Orientation & Language Module**

**Credits:** 2 ECTS

This two-part orientation module helps students integrate into the Czech academic, clinical, and cultural environment. It includes both faculty-specific and university-wide activities.

### **Week 1 – Faculty-based Orientation**

- Welcome session at the Faculty of Health Sciences
- Introduction to the Czech healthcare system
- Meeting with Erasmus coordinator, academic staff, and clinical tutors
- Guided departmental tours:
  - Radiodiagnostics
  - Nuclear Medicine
  - Radiation Oncology
- Basic Czech for healthcare (useful medical phrases, patient interaction)
- Cultural immersion activities focused on student life and local customs
- ***Assignment: selection of topic for cultural presentation***

## **Week 6 – University-wide Erasmus Orientation Week**

- Organised centrally by Palacký University
- English-language lectures on Czech society, education, and culture
- Guided tour of Olomouc and university campus
- Intercultural workshops and social networking events
- ***Student presentation: 5–10 minute talk on selected Czech cultural topic***

---

## **Weeks 2–5 – Academic Teaching with Applied Sessions**

**Core Credits:** 5 ECTS

**Optional Modules:** up to +4 ECTS

This academic block is focused on advanced cross-sectional imaging, with additional optional modules in specialised areas. Teaching includes lectures, protocol workshops, and tutor-guided demonstrations in clinical departments.

*Note: Clinical site observations are considered part of academic instruction and do not count as formal clinical training under ECTS classification.*

**Core Module (Compulsory):**

**CT and MRI Parameters and Protocols – 5 ECTS**

This academic block focuses on advanced cross-sectional imaging and combines theoretical instruction with applied, tutor-guided demonstrations. The module is delivered by academic staff and clinical imaging professionals.

**Content includes:**

- Overview of key system parameters in CT and MRI: tube voltage/current, pitch, field strength, TR/TE, slice thickness, image matrix
- Optimisation strategies for diagnostic quality and patient safety, including dose management in CT
- MRI protocol design principles and contrast administration guidelines
- **Exposure to complex and specialised imaging procedures**, such as:
  - **Cardiac CT** – high-resolution visualisation of the coronary arteries, cardiac chambers, and great vessels using ECG gating
  - **Cardiac MRI** – assessment of ventricular volumes, ejection fraction, and myocardial wall motion; includes the use of dedicated sequences for tissue characterisation
  - **Functional MRI (fMRI)** – brain activity mapping with support from biomedical engineers
  - **Fetal MRI** – use of fast imaging sequences and safe techniques for evaluating central nervous system anomalies, thoracic and abdominal malformations, as well as placental structure and function
  - **Pediatric imaging** – protocol adaptations, dose minimisation, and anatomical considerations in children
- Practical protocol workshops using real clinical cases
- Group-based learning through structured tasks and peer discussions
- **Students will be provided with an English-language lecture package**, including all key topics for in-depth revision and self-study

**Optional Supplementary Modules (each +2 ECTS):**

- **Radiation Oncology – Physics Perspective**
  - Treatment planning, beam shaping (IMRT, VMAT), radiation safety, quality assurance
  - Taught from the perspective of Radiation Therapists and Medical Physicists

**Nuclear Medicine – PET/CT and Cardiac Applications**

- Fundamentals of PET/CT and SPECT, focus on myocardial perfusion imaging and gated techniques
- Led by experts from FNOL, renowned for excellence in cardiac nuclear medicine

---

## **Weeks 7–12 – Personalised Clinical Placement**

**Credits:** 10 ECTS

Students undertake a personalised clinical placement in their chosen area of interest. The selection of clinical modalities is individually tailored based on the student's academic background, the requirements of the sending institution, and the student's specific interests. This selection process takes place during the initial orientation week (Week 1), following guided tours of all relevant departments and consultation with assigned clinical tutors.

Clinical training is carried out at University Hospital Olomouc (FNOL) and is fully supervised in English. **All clinical placements are conducted alongside Czech students**, promoting professional integration, cultural exchange, and collaborative learning within the multidisciplinary clinical environment.

**Each student receives a written evaluation from the supervising tutor at each department**, assessing their performance, progress, and engagement during the clinical placement.

### **Radiodiagnostics (multi-modality option):**

- Computed Tomography (CT)
- Magnetic Resonance Imaging (MRI)
- Conventional Radiography (X-ray)
- Mobile Radiography (incl. operating theatre imaging)
- Fluoroscopy
- Interventional Radiology

### **Nuclear Medicine:**

- PET/CT and SPECT/CT imaging
- Gamma camera diagnostics
- Cardiac imaging (e.g., myocardial perfusion and gated SPECT)

### **Radiation Oncology:**

- Radiotherapy planning
- CT simulation
- Linear accelerator treatment delivery
- Oncology patient care workflow

**Minimum attendance: 90% is required for successful clinical evaluation.**

---

## **Week 13 – Final Project & Presentation**

**Credits:** 3 ECTS

In the final week, students complete and present an individual clinical or protocol-based project related to their chosen modality. This project reflects the student's learning throughout the placement and connects theory with clinical practice.

**Project examples may include:**

- Imaging protocol analysis or optimisation
- Evaluation of specific diagnostic techniques
- Case study presentation with discussion of clinical reasoning

The project is presented to academic and clinical staff and includes peer feedback and tutor evaluation.

- Conducted in English
- Structured feedback provided by clinical tutors
- Encourages reflective learning and communication skills

## Credit Summary

<b>Module</b>	<b>Credits</b>
Orientation & Language Module (Weeks 1 & 6)	2 ECTS
Academic Teaching: CT/MRI (Weeks 2–5)	5 ECTS
Personalised Clinical Placement (Weeks 7–12)	10 ECTS
Final Project & Presentation (Week 13)	3 ECTS
<b>Total (Core Programme)</b>	<b>20 ECTS</b>
Optional Module: Radiation Oncology	+2 ECTS
Optional Module: Nuclear Medicine	+2 ECTS
<b>Total Possible ECTS</b>	<b>Up to 24</b>