

## Timetable short Isotope course June/July 2024 (max.2 groups)

(concept-versie/version 14/2/24)

### rooster korte isotopen cursus juni/juli 2024

#### Isotope Course:

#### RPO Dispersible Radioactive Materials level D (RPO DRM-D)/MC-B

(Toezichthouder Stralingsbescherming Verspreidbare Radioactieve Stoffen-D: TS VRS-D/MR-B)

**RPO DRM-D (in Dutch: TS VRS-D)** overlaps to a large extent with the former Level 5B training. The RPO DRM-D supervises applications with an activity of up to 0.2 Re<sub>ing</sub>. Just like previously level 5B was needed for working in the Isotope Lab, now you need to the RPO VRS-D course. So the course is also used as an appropriate instruction for people working with dispersible radioactive substances.

This course is a self-study course with a -mandatory- introduction lecture sometime before the start of the (also mandatory) practical training.

People who have not attended the introduction are not allowed to participate in the practicals and exam.

The course has apart from the introduction lecture two days practical training and an exam. Only after passing the exam and participating in the practical training one will receive the certificate of the course. The practical training will be in the Isotope Laboratory Life Sciences (start in room 5174 00 30, ground floor) of the Linnaeusborg (Nijenborgh 7, building U - Zernike) in Groningen (see table below for the dates).

The exam consist of 40 multiple-choice questions with each four possible answers, and two open questions. One point is granted for each multiple-choice question that is correctly answered. For the open questions one may obtain a maximum of 10 points. The exam is passed if 30 out of the 50 available points have been obtained.

The exam can be done in Dutch or English. The course materials are the manual for the practical training and the booklet Health Physics for radiation protection officers *-dispersible radioactive materials - level D (VRS-D) & measurement and control applications –sealed radioactive sources (MR-B)* that is composed and written by *Dr. F. Pleiter and Dr. H.F. Boersma*. The course materials are also available in Dutch.

More information about this course and a test exam can be found on this website:

<https://www.rug.nl/education/other-study-opportunities/radiation-protection/strts-vrs-d/>

**Practicals:** Unless otherwise indicated all practicals start at 9am in room **5174 00 30**, Linnaeusborg/Nijenborgh 7 (Linnaeusborg-Nijenborgh 7, building U np Zernike) in Groningen.

There will be each day two groups (note: only if number of participants >6) who will do the practicals in different rooms in the Isotope Lab (see table below). Introduction and exam will be for all groups at the same moment. Practicals are scheduled for the whole day (9-17 h.)

**Introduction lecture:** Monday 24 June 2024; room **5174.0030** (Linnaeusborg); start at 13:30 h.

**Exam:** Tuesday 2 July 2024 10:30-12:00h, **Yet unknown** (time and location not sure yet).

**Introduction lecture, practicals and exam are all mandatory!**

Maximaal aantal deelnemers/*maximum number of participants*: 12.

Minimaal aantal deelnemers/*minimum number of participants*: 4

Course dates: 24 June - 2 July 2024 Cursusdata: 24 juni5 – 2 juli 2024		1. Beta-proef <i>Geiger-Müller counter and Beta radiation</i>  (All groups)	2. Gamma-proef <i>Gamma-ray spectroscopy</i>  (All groups)	3. Gedrag van $\gamma$ -straling <i>Characteristics of <math>\gamma</math>-radiation</i>  (All groups)	4. Vloeistof-scintillatietelling <i>Liquid scintillation counting</i> (Only for RPODRM-D/VRS-D)	5. Praktisch beheer <i>Practical management</i> (Only for RPODRM-D/VRS-D)	6. Monitortest <i>Monitor Test</i> (Only for RPODRM-D/VRS-D)
Monday (maandag) <b>24 June</b>	13:30 h. - ±15:30 h.	<i>Introduction lecture (all groups**)</i> <i>Room 5174.0030 (Linnaeusborg)</i>					
Tuesday (dinsdag) <b>25 June</b>	9:00 h.	Group A ↓		Group B ↑		Group B ↑	
	13:00 h.	Group B ↓		Group A ↑		Group A ↑	
Thursday (donderdag) <b>27 June</b>	9:00 h.		Group B ↑		Group A ↓		Group B ↑
	13:00 h.		Group A ↑		Group B ↓		Group A ↑
Tuesday (dinsdag) <b>2 July</b>	10:00h	<b>10.30 – 12:00?</b> hour/uur examen/ <i>exam</i> in <b>Yet Unknown</b> ( <i>time and place not sure yet</i> ) gebouw/building Linnaeusborg?					

**NOTE: introduction and days with practicals are mandatory!**

\*\*De indeling in groepen (A-B) wordt gemaakt op de eerste practicumdag/*The division in groups A-B will be made on the first day of the practicals.*

Kosten/Costs: max. € *see website* (there are special lower fees for employees of the faculty of Mathematics and Natural Sciences, students, other employees of the University of Groningen, UMCG & Hanze University)

Aanmelding/application: via the GARP<sup>1)</sup> website “Cursuswinkel”:

<https://cursus1.webhosting.rug.nl/amd/stralingsbescherming/toezichthouder-vrs-d-en-nr/> (NL)

<https://cursus1.webhosting.rug.nl/amd/en/stralingsbescherming/toezichthouder/> (Eng)

**NOTE: Due to work-in-progress revising the website participants from outside the university should contact the GARP-secretary ([amd@rug.nl](mailto:amd@rug.nl)) for registration. Online registration via the links above is only possible for people from the University of Groningen.**

Betaling van cursusgeld wordt afgehandeld door GARP. Ook het cursusmateriaal (theorieboek & practicumhandleiding) wordt toegezonden door GARP.  
*Payment of the course fee is handled by GARP. Also the course materials (theory book, manual practical training) will be send to you by GARP.*

Further information:

- The set-up of the course presumes that Covid19 precautions like distaining are not necessary.
- The practicals starts in the morning at 9.00 hrs and in the afternoon approximately at 13.00 hrs.
- The practical days are indicated in the tables.
- The maximum group size will be 6.
- The practicals will take place in the Isotope Laboratory of the Linnaeusborg (Centre for Life Sciences) at the Zernike Campus in Groningen.
- The practicals in the isotope laboratory of the Linnaeusborg (address: Nijenborgh 7) start in room 5174 0 30
- You will need a calculator as well as the lab manual. A ruler or an equilateral triangle is recommended.
- You are not allowed to bring a lab coat or TLD badge from elsewhere.
- You should have studied the relevant tests in the manual before starting the practical session.
- *Do not attend the practicals if you have possible Covid related symptoms or tested positive on Covid19 or any other dangerous infectious diseases!*
- It is not allowed to use an already used manual during the practical training!

General coordination practicals radiation courses: Arjo Bunscoeke (tel.050-3632410, e-mail [e.j.bunscoeke@rug.nl](mailto:e.j.bunscoeke@rug.nl))

<sup>1)</sup> GARP = Groningen Academy for Radiation Protection