PhD Policy of the Department of Physics and Astronomy

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Disclaimer: *this policy note applies to* ***all PhD candidates*** *within the Department of Physics and Astronomy, irrespective of when they started their PhD trajectory.*

Nevertheless, we are aware that a ***transition period with some flexibility*** *may be necessary to ensure its smooth implementation across the whole department. In particular, the structured PhD progress meetings are only expected to take place to those PhD candidates who have been assigned a PhD Candidate Advisor.*

Note also that PhD candidates affiliated to the ARCNL and Nikhef institutes are to follow the guidelines (including progress meetings) of their ***respective Graduate Schools****, which also strive for and are well aligned with a* ***4-year completion****. The same considerations apply to PhD candidates of our department enrolled in other* ***officially recognised PhD graduate schools****.*

In case of questions or concerns, PhD candidates and/or supervisors are welcome to reach out to the MT.

Introduction, background, and goals of this policy note

The excessive duration of PhD thesis in the Department of Physics and Astronomy, with a median delay of around 2 years in 2025, represents a long-standing problem for our department since many years.

The need for a revised PhD policy became evident when writing our updated Research Self-Evaluation for the period 2017-2024: excessively long PhD durations were the only issue for our department identified in the previous evaluation (2010-2016) for which no improvement could be reported now. Both the underlying causes and possible solutions for this excessive PhD duration have been discussed at various staff meetings and section representative meetings (SRM), as well as through a dedicated session in the staff retreat in June 2025.

In addition, we considered when writing this new policies the findings on PhD duration from the Universiteiten van Nederland national survey (2021), the survey of the Promovendi Netwerk Nederland (march 2025), and of the VU's own PhD survey (June 2023).

Some of the identified causes of PhD delays include:

1. **Inadequate planning**: delays frequently arise due to poor planning, either from the PhD candidate or from the PI side, particularly when essential equipment is not delivered or repaired on time. For example, among VU PhD candidates experiencing delays, 38% cited "too ambitious projects" and 25% "unrealistic supervisor expectations." Other factors include adding new research themes and problems with experiments or data collection. Unclear regulations or expectations regarding PhD requirements further contribute to hidden workload, uncertainty, and delays.
2. **Time management and writing skills**: Poor time management and writing difficulties are often reported as contributing to PhD delays. Delays often occur when students

postpone thesis writing, due to limited writing or organizational skills, underestimating external factors, or uncertainty about expectations. Furthermore, PhD candidates may lack sufficient support in developing their academic writing skills. Often, both PhD candidate and PIs tend to postpone writing the manuscript until the end of their contract.

3. **Lack of sense of urgency**: there may not be a strong drive—be it from the PhD candidate or from the PI—to complete the PhD trajectory in four years.

Building upon these various discussions and related surveys, the **Director of the Physics Graduate School** (currently Rick Bethlem) and the **PhD Candidate Advisors** (PhDCAs) of the department wrote a first proposal about possible solutions to the problem of long PhD trajectories.

This document elaborates and extends their proposal, in light of discussions and feedback received from various stakeholders (from PIs to PhD candidates) and presents an updated set of policies guiding PhD trajectories within the Physics and Astronomy Department.

Through this document we discuss general guidelines but also allow room for **well-justified exceptions** following the "comply or explain" principle.

Why 4 years are our target for PhD completion time?

Here and in the rest of this document, we identify PhD completion time with **submission of the PhD manuscript to Hora Finita**.

There are several reasons which justify why a PhD completion time of 4 years should become the standard in our department:

- **Compliance with funding providers**: whenever we request (and secure) external grant funding, we make a research plan that leads to a PhD completion in 4 years and subsequently draft a Training and Supervision Plan (TSP) aligned with it. Pending unforeseeable circumstances, we should always strive to honour these promises.
- **Healthy expectation management**: whenever a PhD candidate starts their research, we agree with them on a research plan which aims to result in a PhD completion in 4 years. A significant, systematic deviation from this goal results in a breakup of this *PhD contract* and damages the relations of trust and support which are at the basis of a healthy and successful research institute.
- **Financial stability**: delays in PhD completion have severe negative financial implications for the department by delaying or missing altogether the PhD bonus that the government gives universities for each PhD graduation. Furthermore, eventual PhD contract extensions on 1st money stream (not for grants) will be **extremely difficult** in the coming years due to budget limitations (especially so if we don't address this issue of excessive PhD duration).
- **Self-reinforcement effect:** when PIs actively promote timely completion, this expectation is more likely to influence PhD candidates as well and vice versa. Normalizing a 4-year completion time across the department will make it a self-reinforcing standard.
- **External perception and prestige of the department**: not only the University and the Faculty expect (with good reasons) our PhD candidates to finish in 4 years, but

prospective applicants also gauge PhD duration when choosing a host institution. Showing that we can deliver on our promises concerning PhD duration further emphasise the external perception of our department as reliable, trustworthy, and able to get things done even in challenging environment while maintaining high standards of excellence in research.

- **Dutch labour law**: it is not only unethical, but also illegal to expect PhD candidates to keep working on their PhD manuscript while on unemployment benefits after their contract has expired.

Two important additional points in this context:

- **Well-justified extensions** associated to delays beyond the control of the PIs and the PhD candidates (such as those associated to the move to our new building, or those associated to sick/maternity leave) and funded by the 1st money stream remain allowed, subject to the availability of sufficient funds in the departmental budget and the approval of the MT.
- Provided there is (external) funding available and interest from both parties, **contract extensions to continue research** are always possible, provided the PhD candidate submits first their manuscript so they can receive a contract extension now as a **postdoc**. This strategy bypasses the drawbacks listed above associated to excessive PhD duration while facilitating continuity of research in our groups if there is funding and both parties want to continue with these research activities.

> Specifically, a contract as 'postdoctoral' researcher can be offered to PhD candidates' whose manuscript has already been **approved by the reading committee** (typically, this happens one month after the manuscript submission) even if they have not yet formally defended their PhD.

Minimal requirements for a PhD thesis in the P&A department

The minimal requirements for a PhD thesis at the VU Amsterdam are specified in their **Doctorate Regulations**. Additional information is provided by the **PhD regulations** at the VU Faculty of Science (**link**, also this **link** for access outside the VU network).

Aligned with these regulations, and taking into account the specific character of the Physics and Astronomy Department, the guidelines for the minimal requirements for a PhD thesis in our department are:

1. An introductory chapter, presenting the state of the art and motivating the research.
2. (*Optional*) A chapter describing the methodologies adopted by the PhD research. In general, this will not be original material, but new methodologies can also be presented here.
3. **Three chapters** presenting original material. This material has either been already published in a peer-reviewed journal or has a quality such that they may become eventually **suited for publication**. Of these three chapters, **at least one** needs to be either published or on good track towards publication.

4. A final discussion chapter which may *e.g.* consist of a short summary and outlook.

We emphasize that these are general guidelines, and that the principle **of *comply or explain*** will be followed. Justified deviations with respect these guidelines are possible but need to be requested (and approved) to the Chair of the Physics Graduate School.

We emphasize that there is **no guarantee** that after 4 years the research carried out by the candidate will be deemed of sufficient high quality to justify a PhD award. Only once the guidelines described above are met and after the approval from their supervisors, a PhD candidate can proceed with the submission of the PhD manuscript.

On the role of the PhD Candidate Advisors

Each PhD candidate in our department is paired (starting in 2023) with a dedicated PhD Candidate Advisor. The PhDCA serves as an independent "third pair of eyes" — helping to ensure that projects stays on track while supporting the wellbeing and overall success of our PhD students. PhDCA advise up to 10 PhD students, meeting with each of them at least once per year (or more frequently upon request).

The P&A department values very highly the **crucial role played by PhDCAs** and acknowledges the time they invest in mentoring when considering the distribution of managerial tasks.

PhD Structured Progress Meetings

Throughout their PhD trajectory, there are at least 5 (and possibly more) **structured progress meetings** attended by the PhD candidate, the supervisor(s), and the PhDCA. The content and goals of these meetings are the following:

1. **3 Months** – Focus on initial planning, emphasizing realistic timelines and dependencies (*e.g.,* shared equipment, workshop availability) and mandatory courses and training. Discuss the requirements for a PhD manuscript and how these translate to the specific PhD project. We expect all PhD students to take the "Training PhD Success and Personal Efficacy" course offered by the university (VU Course Link) or a similar one, preferably immediately after they start, to strengthen time management and planning skills early on in the trajectory. *Should VU-wide courses not match the needs of our PhD cohort, the department will arrange their own specific trainings, aimed to our PhD candidates*.
2. **8 Months** – Discuss the student's well-being. Reassess planning, adjust based on experience and evolving project scope. Hold an open, realistic conversation about expectations and whether the student demonstrates the attitude and skills required to complete a thesis that meets the department's minimum standards (see above) within 48 months. *If the supervisor is considering not to extend the contract of the student, clear and specific instructions regarding expected improvements should be given.*

In the case that in the 8-months meeting a possible non-extension of the PhD contract is on the table, a **go/no go meeting** will be scheduled before the end of **Month 11** since the start of the contract. Formal communication (oral and written) that a PhD contract will not be

extended beyond the first year needs to happen at the latest **one month and one day before the end of the first year of contract**.

3. **24 Months** – Discuss the student's well-being. Before this meeting, students must complete a mandatory writing course, aimed at departmental peers. This course, funded by the department, should ideally yield a first draft of the introduction that is used for the mandatory PhD plagiarism check. The department will arrange this course and ensure it is targeted to the needs and expectations of our PhD cohort. *Alternatively, should students provide evidence that their scientific writing skills are adequate (e.g. in the form of an introduction chapter, a published/publishable review paper, or a draft of the first paper), this course will not be required*.
4. **36 Months** – Discuss the student's well-being. Students present an initial thesis outline (in the form of a .pdf file based on the VU PhD template or an overleaf link), including a **complete draft structure** with chapter/section titles, the intended content of these, what is required to finish these sections, and a detailed, realistic (SMART) planning for the final year. This meeting should include a discussion on how feedback from the supervisor of the PhD manuscript draft will be provided and the expected timescale. In principle, the last 6 months of the 4-year program should be reserved for writing, unless the thesis is sufficiently completed to allow for other activities (lab work/analysis/coding/…). Following this 36-month meeting, the PhDCA will send to the corresponding **section head** (with the departmental manager in cc) a **short assessment whether the PhD candidate is on track or not** for a PhD manuscript submission at month 48. The CA and section head (with the possible support of the MT) will reflect on whether action is required and advise the PhD candidate and the supervisor.
5. **Check-up (42 Months)** – Via e-mail, PhD candidates submit a report (free format, *e.g.* based on the SMART assessment of the previous meeting) on the current status of their thesis, approved by the supervisor, to the PhDCA and section head (with the departmental manager in cc). *If there are doubts about PhD completion after 48 months, a second check-up moment (also via email) will be scheduled*.
6. **Check-up 2 (45 months)** – *only if required, and also via email*. Same as in the first check-up moment. Without a clear path to PhD submission in month 48, further lab/theory research work **is strongly discouraged,** and it is expected that the PhD candidate **will fully focus on writing up** their PhD manuscript. The MT and section head will be informed in case a path towards PhD submission before the end of the contract is missing.

To facilitate the timely scheduling of these regular structured progress meetings and facilitate the PhDCA workload, a student assistant will be hired to support the PhDCAs in their activities.

In the case of (approved) contract extensions, the timeline after 36 months in these structured PhD progress meetings will be **pushed forward** by the same amount of time of the extension.

Additional guidelines relevant to PhD trajectories

- As a general rule, **all PhD contract extensions need to be approved by the MT,** including those for which (external) funding is available. For PhD candidates already meeting the requirements of PhD thesis described above, no extensions will be allowed (even if there

is funding available) before PhD manuscript submission has taken place. Afterwards, contract extensions (as 'postdoctoral' researcher) should be possible.

- Together with the PhD Council, the Chair of the Physics Graduate School and the PhDCA will organize research presentation meetings and/or poster sessions for PhD candidates within the department. These meetings will **foster a sense of community**, accountability, and shared progress. A culture should be created where students see themselves as part of a cohort aiming to "start together, finish together." The PhD council will also focus strongly on increasing cohesion by offering more social and scientific events and workshops in the future.
- The MT will incorporate PhD completion statistics, as well as consider the professional development and well-being of the PhD candidates under their supervision, in regular **PI evaluations** and promotions *e.g.* during the annual appraisal meetings, review of the fleet (*vlootschouw*), and self-evaluations. This information will be monitored and shared by the Chair of the Physics Graduate School, supported by our secretariat in case it is needed.