This translation is provided solely as a courtesy to international students and applicants. Reliance in law may only be placed upon the official German version of these Regulations.

<table>
<tr><td colspan="3">Georg-August-Universität Göttingen
Doctoral degree programme in "Physics"
P.Phy.01: Thesis Committee Meeting</td></tr>
<tr><td colspan="2">Learning objectives
- Scientific assistance in a research area
- Critical appraisal of scientific publications
- Profound knowledge in subject-specific fields of knowledge and current research focuses
- Knowledge of the rules of good scientific practice
Competencies
- Fundamental ability to engage in scientific appraisal and discourse within the framework of academic events of research-based relevance in a research area
- The ability to formulate problems within physics and to describe corresponding solution strategies
- The ability to document the results of research into issues within physics
- Presentation of research results to a specialist audience</td><td>Scope of the module

4 Credits/
2 WLH

Workload in hours: 120
Attendance in hours: 60
Self study in hours: 60</td></tr>
<tr><td colspan="2">Course: Annual meetings with the thesis committee
Performance record: Portfolio on experience in the area of scientific communication (no more than 2 pages, respectively), ungraded
Preliminary requirements:
Proof of at least one meeting per year with the thesis committee
Performance requirements:
Progress in the doctoral project, presentation of outstanding questions, planning of the next stages until completion of the doctoral studies</td><td>2 WLH</td></tr>
<tr><td>Options
Compulsory module</td><td colspan="2">Qualifications for entry
None</td></tr>
<tr><td>Reassessment
Twice</td><td colspan="2">Applicability
Doctoral degree programme in "Physics"</td></tr>
<tr><td>Frequency of course
Semester basics
Each semester</td><td colspan="2">Duration
The module can be completed in two semesters</td></tr>
<tr><td>Language
German or English</td><td colspan="2">Maximum number of students</td></tr>
<tr><td colspan="3">Module coordinator
Dean/Dean of Studies in the Faculty of Physics</td></tr>
</table>

Georg-August-Universität Göttingen
Doctoral degree programme in "Physics"
P.Phy.02: Scientific presentation and communication

Learning objectives and skills

The doctoral students

1. systematically summarise their research findings and present the same in front of an expert audience;
2. are equipped to defend their own research project in disciplinary and inter-disciplinary discourses;
3. consolidate their knowledge to defend their own position in controversial discussions and to counter criticism constructively;
4. develop contacts with the international scientific community;
5. become familiar with new research and topical fields.

Scope of the module

4 Credits

Workload in hours: 120
Attendance in hours: 42
Private study in h: 78

Courses and examinations

Preparation and presentation of scientific contributions for at least one national or international conference.
Performance record: Talk or poster presentation, ungraded

Options Compulsory module	**Qualifications for entry** None
Reassessment Twice	**Applicability** Doctoral degree programme in "Physics"
Frequency of course **Semester basics** Each semester	**Duration** The module can be completed in one semester.
Language German or English	**Maximum number of students**
Module coordinator Dean/Dean of Studies in the Faculty of Physics	

Georg-August-Universität Göttingen
Doctoral degree programme in "Physics"
P.Phy.03: Scientific Writing

Learning objectives and skills

The doctoral students can present and discuss the current status and results of their doctoral thesis. Under instruction and supervision, they are able to prepare and write a scientific manuscript on their own research topic. They acquire competencies in critical reflection on their own scientific discussion and expand their scientific horizon.

Scope of the module

4 Credits/
2 WLH

Workload in hours: 120
Attendance in hours: 60
Self study in hours: 60

Courses and examinations

A scientific publication consisting mainly of the candidate's own contributions must be prepared under instruction and supervision, and then submitted to an international academic journal.
Performance record: Publication submitted for publishing and consisting mainly of the candidate's own contributions on current research results.

Options Compulsory module	**Qualifications for entry** None
Reassessment Twice	**Applicability** Doctoral degree programme in "Physics"
Frequency of course **Semester basics** Each semester	**Duration** The module can be completed in one semester.
Language German or English	**Maximum number of students**
Module coordinator Dean/Dean of Studies in the Faculty of Physics	

Georg-August-Universität Göttingen
Doctoral degree programme in "Physics"
P.Phy.04: Advanced scientific qualification in theory and practice

Learning objectives and skills

The doctoral students
- enlarge upon theoretical knowledge and methodology they need for their dissertation;
- learn how to independently acquire and apply new knowledge and skills in a practical environment;
- distinguish research topics from one another and derive relevant research questions that can be empirically verified based on the state of the research;
- develop on the basis of the knowledge acquired suitable experiments and analysis designs in order to respond to hypotheses.

Scope of the module

3 Credits/
2 WLH

Workload in hours: 90
Attendance in hours: 28
Private study in h: 62

Courses and examinations

Advanced courses in the research area of the doctoral studies; also suitable courses from related research areas in the master degree programme or external, specialist methodical or advanced courses as defined by the thesis committee, e.g. as part of an inter-university doctoral degree network.

Performance record: Work report, no more than 2 pages (ungraded)

WLH individual

2 WLH

Options
Compulsory module

Qualifications for entry
None

Reassessment
Twice

Applicability
Doctoral degree programme in "Physics"

Frequency of course
Semester basics
Each semester

Duration
The module can be completed in one semester

Language
English

Maximum number of students

Module coordinator
Dean/Dean of Studies in the Faculty of Physics

Georg-August-Universität Göttingen
Doctoral degree programme in "Physics"
P.Phy.05: Additional scientific qualification in theory and practice

Learning objectives
- Expansion of knowledge of the natural sciences

Competencies
- Command of an enlarged methodical repertoire
- Ability to classify results in own research area within a broader context

Scope of the module

3 C / 2 WLH

Workload in hours: 90
Attendance in hours: 28
Self study in hours: 62

Courses and examinations

Advanced course in research areas of natural sciences that do not belong to the closer research area of the dissertation. A member of the thesis committee will decide whether a course belongs to the closer research area of the dissertation.
Performance record: Work report, no more than 2 pages (ungraded)

WLH individual
2 WLH

Options Compulsory module	**Qualifications for entry** None
Reassessment Twice	**Applicability** Doctoral degree programme in "Physics"
Frequency of course Each semester	**Duration** The module can be completed in one semester
Language German or English	**Maximum number of students** None

Module coordinator
Dean/Dean of Studies in the Faculty of Physics

Georg-August-Universität Göttingen
Doctoral degree programme in "Physics"
P.Phy.06: Tutorial Teaching

Learning objectives and skills	**Scope of the module**
The PhD students 1. prepare courses for advanced students under the instruction and supervision of PostDocs at the faculty, and then support students during seminar courses, exercises, internships or in the completion of the bachelor or master thesis 2. shall design targets, learning targets and the content of teaching units; 3. shall hence acquire skills in the planning and organisation of courses 4. shall acquire knowledge about the didactic tools used within scientific teaching 5. shall acquire skills required to reflect critically on one's own teaching 6. shall enlarge on their scientific horizon.	8 Credits/ 8 WLH Workload in hours: 240 Attendance in hours:112 Self study in hours: 128
Courses and examinations	
Completion of an independent, two-hour exercise lasting an entire semester, OR	2 WLH
Completion of an independent, two-hour exercise lasting an entire semester and correction of excercises, OR	3 WLH
Completion of an independent, two-hour exercise lasting an entire semester and assistance during the exercise	4 WLH
The additional WLH / C to reach a total of 8 WHL / C are gained by completion of: - additional exercises (each 2 C . 2 WHL) and/or - support for one or several internship experiments on at least 5 dates (each 2 C / 2 WHL) - support for no more than (in total) 2 bachelor or master theses (each 1 C / 1 WHL)	
Performance record: Preparation of teaching material or reflection on the supervision and teaching relationship and on the sequence of the internship or teaching unit in a report form (no more than 2 pages).	

Options Compulsory module	**Qualifications for entry** None
Reassessment Twice	**Applicability** Doctoral degree programme in "Physics"
Frequency of course **Semester basics** Each semester	**Duration** The module can be completed in two semesters
Language German or English	**Maximum number of students**
Module coordinator Dean/Dean of Studies in the Faculty of Physics	

Georg-August-Universität Göttingen
Doctoral degree programme in "Physics"
P.Phy.07: Key competences

Learning objectives and skills

The PhD students

1. acquire interdisciplinary methods and key competencies that are expedient to their doctoral studies and their professional start, for instance project and time management, advanced scientific writing, presentation techniques, Teaching in Higher Education, leadership skills.
2. on their own initiative seek further education in the fields of general, personal, social and professional skills, for instance by completing company internships or traineeships.

Scope of the module

4 Credits/
4 WLH

Workload in hours: 120
Attendance in hours: 56
Self study in hours: 64

Partial modules: Courses and examinations

The doctoral candidates consult with the thesis committee to select courses that enlarge on their key competencies, hence contributing to an improvement in their doctoral studies project and their vocational qualification. Specialised and also interdisciplinary methodical courses from those offered by the university and also other institutions can be selected.	flexible
Performance record: Presentation (ungraded) or work report (max. 2 pages; ungraded) or practical performance record for the acquisition of key competencies	

WLH individual

Options Compulsory module	**Qualifications for entry** --
Reassessment Twice	**Applicability** Doctoral degree programme in "Physics"
Frequency of offer, semester repetition Each semester	**Duration** The module can be completed in one semester
Language German, English	**Maximum number of students**
Module coordinator Dean/Dean of Studies in the Faculty of Physics	