

IMPRS UFAST Curriculum Guidelines

IMPRS UFAST is a doctoral program, and thesis research is the core of your activities. In addition, a range of scientific and transferable skills courses is offered to provide you with training opportunities, which will complement your own research, broaden your knowledge of the field, and enable you to prepare for your future careers.

The curriculum consists of various components and is an integral part of PhD studies within the IMPRS. You will also be asked to complete a certain amount of academic and skills training courses during your time as IMPRS fellow. The minimum amount of credit points (CP) required for graduation is 15.

Each 12-hour training unit is considered as one CP. Courses will normally be offered as intensive block courses which are taught within a set period.

What IMPRS curriculum elements are there?

1) Core courses

Core courses aim to provide IMPRS fellows, who enter the school with different backgrounds, with a foundation of the key research areas. There are normally six core courses on offer, each of which is worth one credit point (CP). [Duration: 12h per course]

C_1: Basics of Chemistry/ Biochemistry

C_2: Source Technology

C_3: Basics of Solid-State Physics

C_4: Ultrafast Techniques

C_5: Theory of Electronic Structure and Molecular Dynamics

C_6: Non-linear optics

2) Focus courses

These courses cover specialist topics and are taught by local staff as well as international guest speakers. They are offered as intensive block courses. Focus courses organized by the IMPRS are worth one CP on average. It is possible to substitute an IMPRS focus course with a course offered at other institutions. (see *Offers by other institutions or departments and IMPRS accreditation*)

[Duration: 12h per (IMPRS) course]

3) Transferable skills courses

Courses average two days in duration and will be hands-on workshops given by experienced trainers. A minimum of three CPs must be completed over the three years of doctoral studies. Courses can be chosen from the list of IMPRS-organised courses or from

the course catalogue of DESY Education/Fortbildung, the University's Career Center or other local graduate schools.



- 4) In the **IMPRS PhD Seminar**, doctoral fellows give an overview of their research area/project or important developments in the area. Fellows who have e.g. a scheduled conference talk may also use the seminar for a “test run” and to get peer feedback. The seminar is mandatory for all IMPRS fellows (at least 75% of the sessions per semester must be attended) and is an important forum of regular scientific exchange within the IMPRS. One CP is awarded for attendance per year.

- 5) The **Center for Free-Electron Laser Science (CFEL) Colloquium** and the **PIER Colloquium** offer talks by local and international experts in areas relevant to the IMPRS. In selected semesters, these are complemented by a **series of talks organised by European XFEL**. IMPRS fellows must attend at least 14 talks per year during the three years of their PhD studies. At least 50% of the talks attended in each year must be from the colloquia series listed above. One CP is awarded per year.

- 6) Doctoral fellows should give a **presentation on their research at least once a year**. This can be in various contexts, such as the IMPRS PhD seminar, their group seminar, the CFEL symposium, internal or external conferences or workshops.

Offers by other institutions or departments and IMPRS accreditation:

There are various institutions in the vicinity of the IMPRS who offer courses and training relevant to the IMPRS. Seminars, lectures and workshops offered by these institutions may be accredited in the IMPRS as follows. Please register directly with the provider (if required).



Accreditation as Focus Course

a) *Lectures/Seminars at the University of Hamburg* (<https://www.stine.uni-hamburg.de/>):

Attendance of a lecture series offered within the Master curriculum of a relevant department at the Universität Hamburg may be accredited as a focus course in the IMPRS (one CP per lecture). Lectures/seminars must be attended regularly during the entire lecture period. Exams are optional. A certificate of attendance is required for accreditation purposes.

b) *Lectures offered by other graduate schools of the Campus Bahrenfeld (AIM, PIER ..)*

Attendance of a lecture (series?) may be accredited as one focus course (one CP per lecture). Lectures/seminars must be attended regularly throughout the semester and must be appropriate in length. Exams are optional. A certificate of attendance is required for accreditation purposes.

Maximum number of focus courses to be replaced in total: Two

Maximum number of IMPRS CP possible in total: Two

Skills courses

In addition to the skills courses organised by the IMPRS, it is possible to choose from the offer of general academic skills training courses offered by the University Career (Careers?) Center or by DESY Fortbildung. Skills courses must be relevant to the PhD or the future scientific career. One skills course is normally accredited as one IMPRS CP.

a) *DESY Fortbildung*

Program: <http://fortbildung.desy.de/e125257/>

Costs: Costs may be taken over by the IMPRS. This must be confirmed with the IMPRS coordinator *prior* to the start of a course!

b) *University Career Center*

Program: www.uni-hamburg.de/career-center/nachwuchswissenschaftler/workshops.html

Costs: Courses at the Career Center are free of charge for all registered students at the University

How are IMPRS courses assessed?

All IMPRS courses will be assessed on a pass/fail basis. Attendance of at least 75% of a course is required to pass a course. Attendance will be recorded.

There are no exam requirements for courses attended outside of the IMPRS and for which credit points are sought.

What do I need to do to get credits for IMPRS or external courses?

For **courses/workshops organized by the IMPRS** an attendance list will be provided. Please initial for every session attended. Credits are only awarded if at least 75% of a course/workshop is attended!

For **all other courses/workshops** you seek to get accredited, please hand in a certificate of attendance. This can be either issued by the organizer or you can use the template provided by the IMPRS for this purpose. Please find a copy for download on the forum.

How do I report the colloquium talks I attended?

IMPRS fellows make a note of the relevant colloquium talks attended per year on the spreadsheet provided by the IMPRS office. The list is handed in at the IMPRS office upon completion of all required talks or prior to the annual Advisory Panel meeting.

Minimum course/credit requirements

To increase transparency, the IMPRS UFAST has introduced a credit point system which approximates the ECTS system used at European universities. However, no ECTS are awarded. One credit point (CP) = 12 hours in class plus individual preparation and revision time.

The minimum amount of credit points required for graduation is listed below. It is possible to take more courses but it must be ensured that an appropriate balance between training courses and research is maintained. Registration for courses is done usually via GEVENTIS or by sending an email to the IMPRS office.

	Core Courses	Focus Courses	PhD Seminar	Colloquia Attendance	Transferable (soft) Skills
Year 1	3 CP		1 CP	1 CP	1 CP
Year 2		3 CP	1 CP	1 CP	1 CP
Year 3			1 CP	1 CP	1 CP
Credit points	3	3	3	3	3
TOTAL	15 Credit points over 3 years				



Language courses

English is the common language in the IMPRS and you will conduct most of your academic work in this language. However, remember that your life in Hamburg will stretch beyond your interaction with other scientists. Knowing some German will invariably make your daily life easier and allow you to network better with people outside of work, to travel in and beyond Hamburg or whilst shopping. It may prove very useful when talking to the technicians in the workshops.

All IMPRS UFAST fellows are therefore encouraged to attend a German course. Various options are available, depending on your current proficiency level and schedule.

Please check the forum or contact the IMPRS office for advice and help in sourcing a suitable course provider. Course fees up to a certain maximum will be covered by the IMPRS. Please contact the IMPRS office for advice.

IMPRS certificate (transcript)

Upon submitting their successful dissertation, doctoral fellows will receive the PhD degree certificate issued by the University of Hamburg along with a certificate from the IMPRS which lists all courses which have been completed.

