

The College requires that, following the Research Plan Confirmation (RPC), PhD students' progress must be formally monitored at two key stages after the date of initial registration:

- Early Stage Review – 9 months (full-time students) | 18 months (part-time students)
- Late Stage Review – 18-24 months (full-time students) | 30-36 months (part-time students)

Students must complete 4 Graduate School [professional development skill courses](#): 2 by the Early Stage Review and another 2 by the Late Stage Review.

Remember to keep track of mathematics [postgraduate courses/activities, part of your LSR 100 hours requirement](#), as you will need to list them later on at the LSR milestone.

Content

- a) Gives a clear but concise account of the most relevant background material you have learned so far. This should include a survey of the literature on the topic you are working on.
- b) Describes the research problem which is to form the core of your thesis.
- c) **Length** – typically no more than 15 pages
A longer report is not needed at this stage. It is a useful skill, not only in academic life, to select the key facts which you need to explain, and to write about them concisely.
- d) Ideally the report can be made into an introductory chapter of your thesis, or even, perhaps with more work, turned into a published paper.
- e) The report need not be a complete account of all the background you have learned so far. Provided you make it clear what background your research is based on, and where the argument is intended to go, the assessors should conclude you have a fair idea, for this stage, of what you will need to do.

Writing a coherent account of a piece of research is the safest test for whether one understands it properly. If it is hard to explain part of an argument clearly, it can be because the argument itself isn't clear enough yet.

Aim

To show the student has:

- f) an understanding of the field of research
- g) a critical awareness of the relevant literature
- h) an understanding of the direction of their project
- i) the potential to pursue research.

Data may be minimal and more indicative of ability to perform.

How does it work?

- j) Submit the ESR report through the Maths PhD Milestones online system (you will receive an auto-reminder email with the link to the system, one month prior to the due date).
- k) Lists (on the Maths PhD Milestones online system) at least 2 [Graduate School Professional Skills courses](#) you have taken.
 - Note** → if for any reason you had not yet done this, you must make sure you complete 4 courses before your LSR; students who have not completed the 4 courses by LSR **will not be allowed to progress**. You may check which courses you have attended by emailing graduate.schools@imperial.ac.uk.
- l) Non-native speakers who scored below 45% in the [English Assessment 1](#) must have taken EA2. Please find details in the [Centre for Academic English](#) webpage.
- m) Your supervisor will appoint one or two assessors (your supervisor can be the second one) to meet you about your ESR. The assessor(s) will liaise with you to arrange the meeting.
- n) **Assessor(s)** will read your ESR report, and during the meeting with you they will decide:
 - To what extent you are in command of the background material you need to solve the problem;
 - Whether you yet understand the problem and are likely to be able to progress with it (if you have already obtained some results, even if preliminary ones, you should of course describe these);
 - Whether you can write clearly about a scientific topic.
- o) The assessor will complete their section on online system, which will then go your supervisor for their comments, and finally to the Section Tutor for final approval.
 - [Plagiarism awareness online course](#) – if you have not yet completed this online course at the RPC milestones, it is compulsory to complete by the ESR.
 - [Professional skills development training](#) – the Professional Skills courses on Scientific Writing should be a great help to students in understanding how scientific writing is put together, and the course on Scientific Presentations may give students confidence for the oral. The course on Information Retrieval will be helpful in doing a literature search, and compiling an accurate bibliography.

Possible outcomes

p) **Progress**

If the assessors do not approve the report, there are three possibilities:

- q) **Re-submit** → full-time: within 2 months / part-time: within 4 months of original ESR due date, stated on [Student e-Service](#).
- r) **Transfer to MPhil registration** → alternatively, the College may transfer your registration to the degree of MPhil. The date of MPhil registration will, in this case, be backdated to the date of the initial PhD registration.
- s) **Fail/withdraw** → if the College determines that your progress is such that you cannot continue, you may be required to withdraw from the College at this stage.

Important notes!

1. You receive an email confirmation after all parties have completed their feedback on the online system.
2. Badly written or badly thought out reports will need to be improved and re-submitted.
3. It is the student responsibility to check that they have indeed passed this milestone, by checking their record on [Student e-Service](#).
4. [Professional Skills Development Programme](#)
The Graduate School courses on scientific writing should be a great help to you in understanding how scientific writing is put together, and courses on scientific presentations may give you confidence for the oral.

The courses on information management will be helpful in doing a literature search, and compiling an accurate bibliography.

100 Hours of Postgraduate Courses/Activities

Note that all students are required to have taken 100 hours of PG courses/activities in their first 2 years of study.

You should aim to take a wider range of courses than just those specific to your thesis topic – Taught Courses in Mathematics – these courses may be taken from the [TCC](#), [LTCC](#), [Mathematical Finance Graduate School](#), [Imperial College MSc programmes](#), summer schools, conferences, seminars, reading groups or similar activities (all appropriately assessed) outside your own specific area of specialisation. **Active participation as a solver at the [Math Helpdesk](#) can also count towards the 100 hours (agree it with your supervisor).** The aim is to broaden, as well as deepen, your mathematical education.

Remember to agree on the activities with your supervisor.

[LTCC](#) courses (15 hours)

[TCC](#) courses (generally of 20 hours)

[Mathematical Finance Graduate School](#) courses (8-15 or 20-30 hours)

[Imperial College MSc](#) courses (30 hours of lectures)

Students progressing from the programmes below can count hours from courses taken in year 1 towards these 100 hours:

- MRes in Stochastic Analysis and Mathematical Finance (Imperial)
- CDT Mathematics of Planet Earth (Imperial)
- CDT Geometry Number Theory (UCL)
- CDT Financial Computing Analytics (UCL)

Professional development skills courses

All PhD students are expected to complete a programme of professional skills courses as prescribed by the Graduate School. Failure to complete the requisite training may result in a student's registration being transferred from PhD to MPhil or in a student being barred from entering the PhD (or MPhil) examination. See 4.2 of the [Regulations for the award of PhD and MPhil](#).

- Students must complete 4 courses, 2 by the Early Stage Review and another 2 by the Late Stage Review. See the [Graduate School Professional Development Skills](#) website for details.

If you have not completed this requirement, the College may transfer your registration to MPhil. If you subsequently fulfil the professional skills development requirement, and have otherwise successfully completed the Early Stage Assessment, the department may request a transfer of registration from MPhil to PhD. The date of PhD registration will, in this case, be taken as the date of your initial PhD registration.