

Requirements and Guidelines of the Ph. D Program at the Centre for Ecological Sciences, IISc

1. Courses (Research Training Program or RTP)

CES Ph.D. students are required to take **15 credits** of coursework (inclusive of the 12 credit requirement at the Indian Institute of Science, Bangalore). They must fulfill this requirement through courses at CES and other departments in IISc. The course work must be completed within one year of joining the PhD program i.e by the end of the second semester. The courses offered by CES and other departments of IISc can be found in the IISc Scheme of Instruction, which is revised every year. Students may attend additional courses at related institutions which offer coursework in ecology, evolution and conservation science (NCBS, JNCASR, ATREE), but these may not be formally credited or be part of the RTP.

In addition, special lectures and workshops will be arranged by the department for the benefit of students and these workshops (on topics such as academic integrity, scientific writing, safety etc.) are **mandatory** for CES students.

2. Thesis Advisory Committee

Each student will have a PhD supervisor, typically assigned as soon as an offer of admission is made. In some cases, a student may have a co-supervisor if the project involves close collaboration between two faculty members. The primary responsibility for each student will rest with his/her PhD supervisor(s). A thesis advisory committee may offer additional support.

The thesis advisory committee will include at least three members:

- a) the student's PhD supervisor(s)
- b) a faculty member from CES chosen by the student and the supervisor
- c) a faculty member from within or outside CES who, through his/her area of expertise, is likely to be able to contribute substantially to the student's research (can be from within or outside IISc)

The thesis advisory committee must be established by the end of the first academic year, and will oversee the progress of the student till the submission of the thesis. For any reason, if the composition of the advisory committee needs to be changed, the student and supervisor may effect the change and inform the DCC.

3. Comprehensive exam

The student is required by IISc to take a comprehensive exam **within 2 years** of joining IISc. The candidate will be required to present his/her Ph.D. proposal at the time of the comprehensive exam as well as take an oral exam on topics covered in the courses he/she has taken. The examination will test the student on his/her knowledge of the subject based on the courses taken, as well as his/her capability to carry out the proposed research.

The comprehensive examination committee consists of

- a. The Chair, CES
- b. The Ph. D supervisor
- c. One (or two) invitees (faculty from within the department)
- d. Two senate nominees

It is advisable to include thesis advisory committee members in the comprehensive exam committee.

The student is required to pass the Comprehensive Exam for confirmation of registration as a Ph. D candidate.

4. Mandatory requirements after Comprehensive Exam

a. Student Assistance Program (SAP)

Another mandatory requirement of the IISc PhD program is the SAP, which is a program of teaching assistantship, whereby every student must assist in teaching a course, which could include giving lectures, conducting practicals and/or grading exams and assignments. There is a minimum numbers of hours of participation in SAP as specified by IISc rules. It typically translates into one semester's worth of teaching assistantship, **typically carried out in the third year but definitely before the end of the fourth year** after joining the program.

b. Work progress presentations and reports

All students will be expected to submit a short annual written report, summarizing progress in work and identifying any problems, to DCC. The student will also be required to make three more oral presentations (after the Comprehensive exam) to fulfill the formal requirements of the Ph.D. programme. The first will be an update of work progress, in the form of a departmental seminar, which should be given **before the end of the fourth year**. The second will be the thesis colloquium, an open oral presentation of work, when the student is close to completing the thesis, **before the end of the fifth year**. The final presentation will be the PhD defence, which is after the reviews and revisions of thesis are complete (see Thesis submission below).

c. Thesis submission

The thesis colloquium is followed by submission of the written Ph.D. thesis, which is expected to be complete by the end of the fifth year. Submission of the thesis within five years of joining will entitle the student to a Research Associate fellowship for a period of at least six months. If a student does not submit the Ph. D. thesis at the end of the fifth year, he/she will be given one more year to submit, with a reduced fellowship. Failure to submit at the end of the sixth year will result in cancellation of the Ph.D registration. Revocation of this cancellation can happen only if recommended by an institutional committee headed by the Dean of Science/Director.

After submission, the thesis will be sent for external review. After addressing the comments of the thesis reviewers, there will be a final Thesis Defence, which will include an open oral presentation and a closed-door exam.

Detailed roadmap and milestones to navigate the PhD

Year 1: first (Aug-Dec) and second (Jan-April) semesters

1. Complete course work (RTP)
2. Form thesis advisory committee (by end of second semester)
3. Literature reading to identify Ph. D problem and familiarity with basic skills and techniques
4. Present ideas for Ph. D proposal to thesis advisory committee (summer following second semester).
5. Submit the annual report to DCC (at the start of Year 2).

Year 2

6. Submit written literature review to supervisor, try pilot studies (by end of third semester)
7. Develop Ph.D. proposal, present proposal and any preliminary data in a public departmental oral presentation forum (by end of fourth semester) and revise proposal after incorporating feedback
8. Complete individualised written exam on concepts and techniques learned during course work and proposal formulation (administered by thesis advisory committee in summer following fourth semester)
9. Comprehensive exam (by July 31st of second year)

Years 3-4

10. Annual written thesis progress reports (due before July 31st every year)
11. Complete mandatory SAP (between semesters 5-8)
12. Work progress presentation (mandatory oral departmental presentation by 8th semester)

Year 5

13. Thesis colloquium, thesis writing and submission by end (ie. July 31st) of fifth year. The thesis colloquium should be given at least two months before thesis submission.