



CAM-ICTS Joint PhD Program in Mathematics 2021 (Handbook)

CONTENTS

Faculty mentor, course structure, evaluation and advisor preference	03
Faculty Mentor	03
Course Structure	03
Credit requirements and courses	03
Course registration	03
Dropping the course	03
Evaluation	04
Announcement of grades	04
Fail or Incomplete (I) Grade	04
Academic Probation and terminations	04
PhD advisor preference	05
Comprehensive, PhD registrations, annual extensions	05
Comprehensive exam and PhD registration	05
PhD registration procedure	05
Annual Assessment and extensions	06
Synopsis submission and its requirements	06
PhD thesis submission and its requirements	07
PhD thesis defence (viva-voce examination)	08
Extensions beyond 5 years	09
Contingency grant, carry forward, grader's grant	09
Important contacts	11
Academic and Non-Academic Committees	11

1. Faculty mentor, course structure, evaluation and advisor preference

- a. **Faculty Mentor:** Each student will be assigned an ICTS or CAM faculty mentor. The mentor will discuss various academic as well as non-academic issues with the students to help them adjust to graduate student life. The mentors will also discuss any problems for which the students need the assistance of any kind (apart from solving the homework problems!). The mentor will be the main contact for the students before they register for a PhD after which the main contacts will be the PhD supervisor and the thesis committee. Students are required to get in touch with mentors at least once a month and get the academic progress card filled by the 10th of every month. In case if your faculty mentor is travelling, you can get the academic progress card filled by the Convener, Graduate Cell within the specified time. Please note that the mentor is not your PhD supervisor.

You can speak to the Convener, Graduate Cell, in case you do not wish to speak to your faculty mentor. For any problems regarding the coursework in the first year, you should approach your faculty mentor or Convener, Graduate Cell if your faculty mentor is away.

b. **Course Structure:**

- i. **Credit requirements and courses:** The courses taught in ICTS and CAM are 4 credits each. For the PhD program, you need to complete 48 credits which include a compulsory research project of 8 credits in the 2nd year. The research project will include presentations + instructions on research methodology and ethics. The details of graduate coursework can be found [here](#) (ICTS) and [here](#) (CAM). Please find the first-year course structure [here](#). In the first year, there are six compulsory courses. The second year is more flexible where the students can do electives and reading courses/projects according to their interests at CAM, ICTS or at IISc.
- ii. **Course registration:** The courses for the autumn semester are to be registered by **20th August** and for the spring semester by **20th January** every year. The summer project registration should be completed by **10th May** every year. The academic office and the faculty mentor should be informed about the course registration within the specified timelines.
- iii. **Dropping the course:** The core courses can be dropped with credit via drop test at the beginning of the semester. A satisfactory performance (> B i.e. > 65 marks out of 100) then allows the student to automatically earn credits for the course.

The elective courses that you have registered for, can be dropped by **15 October** for the autumn semester and by the **end of February** for the spring semester. The academic office and the respective faculty mentor should be informed about this within the specified timeline. The dropped elective course will not be listed in the final transcript if it is informed to the academic office and the faculty mentor within the specified timeline. A student may register again for a course that he/she has dropped in a previous term/ semester.

c. Evaluation

- i. **Announcement of grades:** The grades will be announced soon after we receive the grades from the course instructors. The deadline for grades will be January end for the autumn semester, June end for the spring semester, August end for the summer project. Please note the below conversion between the percentile and the grade.

O: 95-100	A+: 85-94	A: 75-84	B+ :65-74	B: 55-64
C: 50-54	F: 0-49			

- ii. **Fail or Incomplete (I) Grade:** If a student registers for a course, does not drop within the deadline for dropping the course and does not complete it, he/she is deemed to have failed in that course.

In case a student attends a course but is unable to participate in the final examination for some reason beyond his/her control, he/she will be given an "I" (incomplete) grade. The course instructor, in consultation with the Convener, Graduate Cell, can arrange for one or more special tests/ assignments after the end of the semester to evaluate the performance and convert the Incomplete grade into a regular grade. This procedure is to be adopted only in exceptional situations.

A student who fails a compulsory course has to take a re-exam/ take the course next time it is offered; if he/she passes the course, the new marks replace the old (failed) marks on the student's transcript.

A student who fails an Elective course may replace it with a different Elective.

The marks secured by a student in all the courses taken up to a certain point in time are used to calculate a Cumulative Point Index (CPI) as follows:

$$CPI = \frac{\sum_n M_n C_n}{\sum_n C_n}$$

where M_n is the marks secured in a course with Credits C_n and both sums run over all the courses taken till the date concerned.

- iii. **Academic Probation and terminations:** The CPI is the major criterion in determining the performance of a student in the Course Work. If the CPI of a student falls below 55, he/she will be placed on Academic Probation and will remain so until the CPI becomes 55 or more, or the Course Work ends. **Failing in 2 courses in a semester -- the student is out.** If the student fails in 1 course in a semester, a reexamination will be given sometime later and he/she will be placed on Academic Probation and will remain so until the course is cleared.

The coursework requirements should be completed before PhD registration.

- d. **PhD advisor preference:** When students are into 1 1/2 years of their course work, they will have to clear the comprehensive exam. Before that, they have to select a potential advisor and decide on a comprehensive committee.

2. Comprehensive exam and PhD registration

- a. **Comprehensive exam and PhD registration:** Students have to register for PhD by the end of the second year. Before registering, students are also required to give a comprehensive examination. The comprehensive exam should be given after 1 1/2 years into course work and students should finish it by the end of the 4th semester. Before a comprehensive exam, students should decide on a potential thesis advisor and a Comprehensive committee should be made (A comprehensive committee should be preferably the same as the Thesis Committee to be formed after registration). Two chances will be given to pass the exam. Comprehensive will be a mix of research topics plus coursework. The exact nature is to be decided by the student's Comprehensive committee. The assessment panel will comprise the student's advisor, an external faculty and another ICTS or CAM faculty member. The panel will be chaired by the ICTS or CAM faculty member (non-advisor).

Every registered student must have a Thesis Committee (TC). The TC should be preferably the same as the Comprehensive committee. The TC will monitor the progress of the doctoral work, help in mentoring the student, and advise the student as well as the supervisor, if necessary.

The TC must be formed by the Chair of the student's Department, in consultation with the Thesis Supervisor, at the time of Registration

Students should make sure that the coursework requirements, oral comprehensive exam, formation of TC and thesis proposal are completed before the PhD registration deadline. Please note that it is your responsibility to find an advisor and be registered by the due date.

The students will receive a degree through the Mathematics Subject Board of the TIFR Graduate School. A change of the subject board may be considered in exceptional cases and should be discussed with the academic office, PhD supervisor and the Convener, Graduate Cell.

Please note that students are free to choose any of the ICTS or CAM faculty members as a PhD supervisor. Student and advisor both should be agreeable to follow the guidelines of the Maths subject board in which the student is registered.

- b. **PhD registration procedure:** When the student is ready to register for PhD before the end of the second year for PhD students, the following procedure needs to be followed.
 - i. Your coursework and comprehensive examination requirements should be complete before PhD registration.

- ii. After your comprehensive exam, you will have to upload the following documents on the datanet <https://datanet2.tifr.res.in/icts>:
 1. Self-signed research proposal (1-2 pages)
 2. Transcript (academic office will prepare & share)
 3. Thesis committee formation form (form on Intranet)
 4. Comprehensive exam report (form on Intranet)
- iii. You will be intimated about your registration number via email and the fellowship will be hiked from the date of your PhD registration.
- iv. Please note that the PhD registration is valid till 5 years from the date of registration. If you do not submit your thesis within this duration, then you will have to re-register for your PhD.

c. Annual Assessment and extensions

Assessment before PhD registration: Annual assessment formalities for students before PhD registration will be initiated in the month of June. The academic office will share a report with the respective student and the faculty mentor. The student should contact their faculty mentor, get their evaluation/ recommendation and submit the assessment report to the academic office by the end of June. After completing this formality, the student will be given an extension note by July.

Assessment after PhD registration: Annual assessment formalities for students after PhD registration should be initiated by the Thesis Committee (TC) in the month of May. TCs are expected to monitor the progress of the student till his/her PhD throughout the year. The TC must meet the student at least once in every academic session, and preferably once every semester. There is no restriction on the maximum number of times the TC can meet the student. TC members are encouraged to interact with the student multiple times in a year, and individual TC members can also talk with the student one-on-one. Students are encouraged to talk to their TC members or the Convener, Graduate Cell or subject board representative for any academic problems.

Any serious problems envisaged in the progress of the student should be brought to the attention of the Convener, Graduate Cell and the Subject Board. The TC report should be submitted to the academic office with a cc to the Graduate Cell for the annual extension.

PhD registered students will have an annual assessment in the month of May/ June. Students will have to give a presentation about their project for about 30-40 mins followed by a question and answer session in front of their TC. For every student, a report from the TC is necessary for the annual extension. This report should be submitted to the academic office by the end of June. After completing this formality, the student will be given an extension note by July. If the TC report is not available, the student may be denied an extension of the fellowship for the next academic session.

3. Synopsis submission and its requirements

The PhD thesis should be an advanced exposition of a particular topic. It must demonstrate that the candidate has done a significant amount of original work in the chosen subject.

- a. **Change in the title before/ during synopsis submission:** If the title of the thesis has changed from that in the registration form, this should be indicated by the student and approved by the Guide.

b. **Synopsis: Submission, Seminar and Acceptance**

Before Synopsis Seminar

- i. Once the work required for the PhD thesis is completed, the candidate should prepare a Synopsis of the would-be thesis and submit it to the PhD guide with a tentative week for the seminar at least 10 days prior to the synopsis seminar date.
- ii. The PhD guide will have to share the synopsis with the Convener, Graduate Cell/ Dean (if the Convener, Graduate Cell is the guide) and academic office along with the names of the committee members (5-6).
- iii. The Convener, Graduate Cell/ Dean will formulate the committee (with 5 members) and will share the list with the academic office.
- iv. The academic office, on behalf of the Graduate Cell, will send out an invitation to the committee members for their confirmation to fix the date of the synopsis seminar.
- v. In the meantime, the student needs to share the title and abstract with the academic office for the announcement. The announcement will be done once the seminar date is fixed.
- vi. The academic office will share the required evaluation form with the committee members, collect the evaluation and share the input with the PhD guide.

After the synopsis seminar

- i. The student should get in touch with his/ her guide to make the necessary changes suggested by the evaluation committee.
- ii. Submit the final synopsis after the changes (if any suggested by the committee members) along with the signed synopsis submission form with the academic office.
- iii. The guide will have to share the suggested list of examiners for the thesis (3 Indians and 3 foreigners)
- iv. Once the above is received by the academic office, the required documents will be shared with TIFR to complete the synopsis submission.

4. PhD thesis submission and its requirements

- a. **Thesis submission:** The thesis can be submitted any time starting from the next day following the submission of Synopsis, to a maximum of six months from the date of submission of Synopsis. The student should submit the Thesis (the cover page format is necessary) to the academic office in consultation with the student's thesis guide along with the
- i. Declaration form
 - ii. Thesis submission form

- iii. Copyright self-certification form (printed back to back) duly filled up, signed by student Guide.

Once the above document is received, the academic office will forward these to TIFR.

- b. **Fellowship after thesis submission:** The prescribed duration of research stay of students enrolled for PhD at TIFR is 5 years. Students who submit their thesis before the completion of this duration will continue to get their existing fellowship and accommodation till the end of the above duration or Viva-voce, whichever comes earlier.

Please note if the student submits the thesis during their extension period, the date of thesis submission is the last date of their fellowship and accommodation.

5. PhD Thesis Defence (viva-voce examination)

- a. **Approval:** If the reports of the external examiners, as well as the report of the Research Guide, are all positive, and only minor changes or revisions are required, the Convenor, on behalf of the subject board, gives the permission for the Viva-voce Examination (or thesis defence). Till this permission is received, the Research Guide should not undertake any communication with the external examiner(s).

Once the permission is received, the following committee is set up to conduct the Viva-voce examination.

- a. the Research Guide
- b. the external examiner who works in India
- c. representative of the Subject Board of Mathematics.

The Viva-voce examination will be set up at a date and time convenient to all concerned, with the help of the academic office. One or more of the principals may participate by videoconferencing if required.

The student needs to share the title and abstract at least one week before the thesis defence for its announcement and necessary arrangements.

- b. **Viva-voce examination pattern:** The viva-voce examination consists of three parts.
 - i. An open seminar by the candidate, lasting not less than 45 minutes, which highlights the research work presented in the thesis. This may be attended by any interested person(s), in addition to the examiners.
 - ii. An open question-and-answer session, during which anyone in the audience of the open seminar (including the examiners) may ask questions or make comments on the material presented in the seminar.
 - iii. An in-camera examination, where only the candidate and the examiners will be present. In this part, the candidate may be asked searching questions to determine his/her level of involvement in the research work presented in the thesis (see below).

- c. **Final thesis submission after viva-voce examination:** After the viva, the student should incorporate any changes/corrections/additions suggested by the examiners, and prepare a final version of the thesis. The title page should have the revised month and year according to the format given here:
<http://www.tifr.res.in/~gsoffice/thesiscoverpage.pdf>.

The research guide should check that these changes have been satisfactorily incorporated before signing the thesis submission form.

The student should download and fill in the thesis submission form
http://www.tifr.res.in/~gsoffice/Final_Thesis_Declaration_Format.pdf.

Please refer the webpage for the procedure of thesis submission to the University cell: <https://www.tifr.res.in/~gsoffice/procedureall.htm>

Once the TIFR University Cell receives the final thesis, a provisional degree certificate will be issued and will be sent to the respective Centre.

For reference:

<http://www.tifr.res.in/~gsoffice/procedureall.htm>

- d. **Short-term employment for fresh graduates:** Fresh graduates with a provisional/regular PhD degree will be eligible to be appointed as Research Associates (fellowship as per norms) for a maximum of 3 months. For this, the advisor has to make a recommendation to the Postdoc Committee.

6. Extensions beyond 5 years

- a. **Extension:** A student who needs an extension beyond 5 years has to discuss it with his/her thesis advisor at least 6 months before the tenure end date. The thesis advisor will have to send a request to the Graduate Cell with his/her justification for the extension. Such requests will be discussed by the Graduate Cell and the extension will be granted as per the norms.

Please note that if the student submits the thesis during their extension period, the date of thesis submission is the last date of their fellowship and accommodation.

- b. **Emoluments:** The fellowship in such cases will be reduced to one half of the original fellowship (Rs.17,500/- per month, currently) with no contingency grant.
- c. **Thesis Fees:** The student will have to bear the thesis fees of Rs.4,000/- if he/she fails to submit the thesis beyond the extension approved by the Graduate Cell.

7. Contingency grant, carry forward, grader's grant

- a. **Contingency grant:** The students are eligible for a Contingency Grant for their first five years. The payment will be released against the bills presented. The permissible expenditure under this allowance is listed below. Any expenditure beyond this list needs the approval of the Convener, Graduate Cell.

1. Purchase of books, journals, cost of photocopying of documents
2. Payment of fellowships/memberships of professional organisations/societies
3. Travel to conferences, workshops and other educational trips
4. Purchase of Laptops, notebooks, Tablet PC s, e-book readers etc.
5. Purchase of computer peripherals, accessories and software
6. Internet bill for students accommodated outside the campus.

If the cost of a particular item is more than the available amount of the Contingency Grant, the extra amount may be claimed from the next year's Contingency Grant once the student becomes eligible for it.

The Contingency Grant has to be utilised during the **Academic Year (Aug -July)**. It may be carried over to the next year only for a known large expenditure in the following year, like a conference that the student plans to attend/ to buy a laptop. The carry-over will be only for this specific purpose, and the permission has to be obtained from the Convener, Graduate Cell (after the recommendation of the faculty mentor/ thesis guide) before the end of the earlier academic year.

The Contingency Grant for an academic year may be claimed at any time during the year. However, if the student leaves the program before the completion of the year, the amount of Grant the student is eligible for will be calculated (proportional to the fraction of the year spent in the Institute) and the extra amount will be recovered.

Please click [here](#) for the contingency form. Fill up the form, attach the bills and take your faculty mentor's signature on the form before submitting it to Accounts for processing.

- b. Contingency carry forward:** Students can carry forward their contingency grant for a known large expenditure such as buying a laptop, travel cost for attending a conference etc. The request should be made by the students mentioning the purpose to carry forward and it should be recommended by the respective faculty mentor (till PhD registration) and thesis advisor (post PhD registration). The recommendation should be forwarded to the academic office. The academic office will compile the list for the final approval of the Convener, Graduate Cell.

For any queries related to the usage of contingency grants, the accounts team (accounts@icts.res.in) can be contacted.

- c. Grader's grant:** Any classroom course that is certified as a core/elective course by the Convener, Subject Board, can have a grader who will receive a book grant of Rs.5000/- at the end of the semester. If the course has more than 10 registered students, the faculty can request two graders for that course. Each grader will get Rs.5,000/- as a grader's grant at the end of the semester.

8. Important contacts at ICTS

- a. **Academic matters and office space:** For all academic matters, including courses, results, comprehensive exams, PhD registration, annual assessment and extensions, synopsis and thesis submission, office space allocation etc., please contact the academic office: academicoffice@icts.res.in; extension: 6042
- b. **Accommodation:** For any query or help related to accommodation or hostel, please contact Mahindra V, mahindra.v@icts.res.in, 9845351488. For personal bookings, go through the housing guidelines on the intranet and contact ICTS guest house: guesthouse@icts.res.in; extension: 6400
- c. **Laptop/ Desktop/ IT/ Wi-fi:** For any query related to laptop/ desktop/ IT/ wi-fi, please contact ithelp@icts.res.in; extension: 6300
- d. **Establishment:** For any query related to your joining, leave, ID card, housing allotment, official letters, medical insurance etc. please contact establishment@icts.res.in; extension: 6016
- e. **Accounts:** For any query related to the reimbursements, contingency grants, fellowship etc. please contact accounts@icts.res.in
- f. **Useful links**
 - i. [Welcome booklet](#)
 - ii. [Graduate courses](#)
 - iii. [Guidelines for academic ethics](#)
 - iv. [ICTS seminars and colloquia](#)
 - v. [Holiday list](#)

9. Academic and Non-Academic Committees at ICTS

- a. **Academic committees**
 - i. Computing Resource Committee
 - ii. Faculty Search and Screening Committee
 - iii. Graduate Cell
 - iv. Lectures and Visitors Committee
 - v. Library Committee
 - vi. Outreach Committee
 - vii. Postdoctoral Committee
 - viii. Program Cell
 - ix. Visiting Students Committee
- b. **Non-academic committees**
 - i. Anti-ragging Committee
 - ii. Cafeteria and Canteen Committee
 - iii. Cell for Prevention and Resolution of Sexual Harassment of Women at Workplace (CPRSHWW)
 - iv. Child Care Cell
 - v. Cultural Committee
 - vi. Engineering Service Committee

- vii. General Administration and HR Planning & Management Committee
- viii. Grievance Cell
- ix. Housing Cell
- x. ICTS Standing Physical Verification Committee
- xi. Local Purchase Committee
- xii. Medical Committee
- xiii. Resource Development and Societal Engagement Wing (RDSEW)
- xiv. RTI Cell
- xv. Sport and Recreation Committee
- xvi. Standing Committee on Admin
- xvii. Tender opening committee
- xviii. Transport and Security Committee

For the roles, members of these committees and contact details, please check the ICTS intranet here: <https://intranet.icts.res.in/content/committees>