POST GRADUATE MANUAL

Master of Science (Research)

Document Revision Table

Version Number	Date	Change Description	Version Status
1.0	March 2008	Initial baseline	Created from printed version dated March 2008
1.1	July-15-2009	a) Inclusion of new curriculum structure b) Corrections to some sections	Approved by the Senate in its 19th meeting held on June 25, 2010.
2.0	October-08-2014	a) Special admission recommendations made by the faculty b) Corrections to some sections based on M.Tech. manual.	Presented before the Senate in its 42nd meeting held on October 8, 2014.
2.1	September-14-2016	Update on part-time registration	Presented before the Senate in its 52nd meeting held on July 27, 2016.

INTERNATIONAL INSTITUTE OF INFORMATION TECHNOLOGY, BANGALORE
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1 INTRODUCTION

The goal of post graduate programmes at IIITB is to develop professionals of the high quality to cater to the needs of industry and academia. Such education will be based on a broad grasp of the fundamental principles of the sciences and scientific methods, a deep understanding of specific area of specialization, an ability to solve new problems, and a capacity to learn continually and interact with multidisciplinary groups. Above all, IIITB aims at developing in its students a capacity for free and objective enquiry, courage and integrity, and awareness and sensitivity to the needs and aspirations of society.

The postgraduate programmes are designed with the above goals in view. They include courses of study, seminars, project work, internships, and research leading to a thesis.

The procedures documented in this manual embody the philosophy of the postgraduate education and ensure a high standard of performance at the Institute. Within this general framework, and subject to the approval of the Academic Senate, hereinafter called the Senate, additional requirements may be stipulated.

The Institute offers the following post graduate programmes:

1. Master of Technology
2. Integrated Master of Technology
3. Master of Science (Digital Society)
4. Master of Science (Research)
5. Doctor of Philosophy
6. Other programmes as may be approved by the Senate from time to time.

Hereafter, the degree programmes Master of Technology, Master of Science (Research) and Doctor of Philosophy will be referred to as MT, MSR, and PHD in the rest of the document.

This manual provides details about the Masters of Science (Research) degree programme.

2 ADMISSIONS

2.1 Academic Session

The academic session of the Institute is divided into three parts: two regular semesters and a summer term. The first semester (Term I) shall normally commence in the first week of August every year, and the second (Term II) in the first week of January. The Summer term shall run from May to July.

2.2 Calendar

1. The Calendar for admissions for a particular year shall be notified by the Institute at the beginning of the previous academic year.
2. Admissions to the programme shall be made in either or both of the two regular semesters. Students shall be admitted at the beginning of the semesters as per the defined procedure.

2.3 Eligibility for Admission

1. The eligibility conditions shall be approved by the Chairman, Senate.
2. Currently for admission to the programme, a bachelors degree in engineering (B.Tech., B.E., or equivalent) is the minimal requirement.
3. The requirements may change for some of the research domains and in cases of exceptional applicants, for which the Senate shall deliberate on specific processes.

2.4 Admission Procedure

1. The admissions procedure for the programme shall be based on previous academic record, research statement, prior research experience, recommendation letters, written tests as required by the chosen research domain and interviews of the candidates by interview panel at the Institute.
2. The interview panel shall be drawn from Members of the Senate, Expert Members from the Industry, and Distinguished Academicians.

2.5 Admission to Part-Time Programmes

1. The Institute also offers part-time registrations for the degree programme.
2. The research work shall be carried out by the student under the supervision of a faculty member of the Institute, at the Institute or at such locations as specified by the supervising faculty.
3. The student will not be eligible for fellowships/stipends from the Institute.
4. The fees of the students may be sponsored by his/her employer, if the student is employed at the time of admission and in cases where it is applicable.
5. A student enrolled in the degree programme has an option of converting the form of registration from full-time and part-time, or vice-versa, during the programme, which can be operationalize upon Senate approval. Upon conversion to part-time, the student will not be eligible for fellowships/stipends from the Institute, and upon converstion to full-term, the student will be on fellowships/stipends from the Institute.
6. A student registering for part-time either at the beginning of the programme or through a conversion shall provide a No-Objection Certificate, which includes all clearances pertaining to use of Intellectual Property generated as a result of his/her academic work during the programme.
7. In cases where student in part-time registration has a change of employer or other cases where the current No-Objection Certificate does not hold, he/she shall submit a new No-Objection Certificate which is applicable to the current scenario.

3 Registration

3.1 Regular Registration

1. Every student shall register each semester for the courses that he/she intends to pursue in that semester. The registration process involves:
   a. Payment of fees for that semester and clearance of any outstanding dues, and
   b. Signing the registration roll.
2. All students who are not on authorized leave shall continue to register in the following semester till they submit their thesis. A student who is likely to submit his/her thesis within two weeks from the commencement of classes need not register in that semester. This period shall not be extended in any case.
3. Students who have submitted their thesis and are waiting to take the oral examination shall register for zero units. They may, however, apply for leave from the Institute with permission to take the oral examination while on leave.
4. In special cases, students who have completed all work related to thesis and are on authorized leave may be allowed to submit their thesis without registration during the leave period.

3.2 Provisional Registration

1. A new entrant to the the programme who is awaiting the results of the qualifying examination may be allowed to register ”provisionally”. Provisional candidates shall complete all the requirements for graduation to the qualifying degree no later than the end of the first semester, failing which their admission shall be cancelled.

3.3 Late Registration

1. If for any compelling reason like illness, a student is unable to register on the day of registration, he/she shall be allowed to register on the day of late registration specified in the academic calendar (which is one week from the date of registration). Any student registering late shall pay the specified late registration fee. No late registration shall be permitted for the summer term.
2. In exceptional cases, the Senate may consider registration beyond the date of late registration.

3.3.1 Deferred Admission

1. For candidates who are professionally employed at the time of admission and are unable to be obtain permission from their respective organization, to pursue the degree programme at the Institute, by the day of late registration, the admission may be deferred to the next term, i.e., a regular semester or the summer term, with permission from the Chairman, Senate, prior to the last date of registration for the semester the student has been admitted for.
   a. Deferring admissions to the summer term may be considered only for students whose fellowships come from sponsored research projects or those on part-time registration.
   b. Admission may be deferred to the subsequent regular term for students on institutional fellowships
   c. The deferment shall not be extended for any further period.
2. The student shall make an application for the same.

3.4 Academic Advising

1. A student registering for thesis units shall have a thesis supervisor assigned to him/her.
2. The student may optionally have a thesis co-supervisor assigned to him/her. Hereafter thesis supervisor(s) may be interpreted as thesis supervisor and co-supervisor, if any.

3.5 Semester Load Requirements

1. For a full time student a semester load is 16 units. However the Senate may permit a student to register for a maximum of 20 units or a minimum of 12 units.
2. A part time student may register for a minimum of 8 units.

3.6 Summer Term Registration

1. Students may register in the summer term for up to a maximum of 9 units.

3.7 Adding/Dropping of Courses and Withdrawing from Courses

1. Adding and dropping of courses after pre-registration is permitted no later than the day of late registration. No adding or dropping of courses shall be permitted in the summer term.
2. A student may be required to drop a course at any stage if it is determined that he/she does not fulfill the prerequisites for the course, or if a timetable clash exists which does not permit him/her to attend all the meetings of the course, or any rule in this manual which forbids him/her to take the course(s) that he/she has registered for.

4 Leave Rules

1. Students may be granted leave on application as per the Senate approved leave rules.

5 Permission to Proceed For Academic Work Outside IIITB

5.1 Permission to Proceed To Other Academic Institutions as Non-Degree Students

1. In order to help students broaden their horizons and enrich their cultural and academic experience, provision to proceed to other academic and research institutions in India or abroad as non degree students is available. Rules and procedures to be followed for availing this provision are as follows:
   a. A student enrolled in the programme who satisfies the minimum conditions as laid down may proceed to another academic institution in India or abroad with prior permission of the thesis supervisor and the Chairman, Senate.
   b. The student shall get fellowship during this period from the organization or institute that is financially supporting this activity.

6 Academic Requirements

6.1 Normal Minimum Duration, Normal Maximum Duration and Academic Requirements

1. The following table lists the normal minimum and the normal maximum duration allowed in the programme and credit requirements for graduation:
   a. "Course work" includes only postgraduate course units unless otherwise stated. "Research units" includes course units towards thesis preparation. To satisfy the "Normal Minimum Duration" requirements, registration must be over consecutive semesters; exception will be made only if the student is on authorized leave. "Normal Maximum Duration" is counted from the student's first registration date. SGPA (Semester Grade Point Average) / CGPA (Cumulative Grade Point Average) will be calculated on the basis of all courses taken by the student.

Minimum Units Requirement			Normal Minimum Duration	Normal Maximum Duration
Course work	Research units	Total units		
16	48	75	4 semesters	5 years

2. In special cases, where the research work may be completed before the normal minimum duration or may exceed beyond the normal maximum duration, the student in consultation with the thesis supervisor may request the Senate to consider the early completion of or extension to the programme, respectively.

6.2 Grades, Semester and Cumulative Performance Index

1. The Institute follows a 4-point system. A student shall be awarded a letter grade in each course he/she is registered for, indicating his/her overall performance in that course. There are twelve letter grades: A, A-, B+, B, B-, C+, C, D, F, S, X and I. The correspondence between grades and points (on a 4-point scale) is given below:

Letter Grade	A	A-	B+	B	B-	C+	C	D	F
Grade Point	4.0	3.7	3.4	3.0	2.7	2.4	2.0	1.0	0.0
Description							Poor		Failure

   S: Satisfactory; X: Unsatisfactory; I: Incomplete
   a. However, an instructor need not use all the available letter grades while grading and may choose a subset of letter grades . (Explanation: For example an instructor may choose to use only A,B,C,D and F, and not make use of A-, B+, B-, C+).
2. If a student does not complete all the requirements for a course for a genuine reason, the instructor may award the grade I (Incomplete). An I grade shall be converted by the instructor to a regular letter grade by the last date for such conversion specified in the academic calendar, failing which it shall be automatically converted to an F grade.

3. A course with an F grade shall either be repeated or substituted with another course as suggested by the Senate.
4. Grade Improvement Process:
   a. Students who, at any point of time during their study at IIITB, have obtained CGPA less than 2.40 and thus determined to be deficient may be allowed to improve their CGPA, if they apply in writing within one week of the announcement of grades for the previous semester, in the following manner.
   b. The students may improve their grades in courses where they have obtained C or D. The course instructor shall determine the assignments, examinations, laboratory work, projects or research papers that they have to undertake and the time period over which the deficient student have to complete the tasks as assigned by the course instructor. Based on the work and performance of the student in a scheduled examination, the course instructor shall assign him/her a letter grade at the end of the study period. If the grade thus obtained by the student is better than the grade obtained earlier, the grade obtained shall be substituted and the new CGPA calculated. The earlier grade obtained shall be indicated in the grade sheet/academic transcript, with a remark that this course has been repeated and the grade has been improved.
   c. In case the grade obtained is same or lower than the grade obtained earlier, the earlier grade shall stand.
   d. In case the course instructor is not available, the programme coordinator, upon a specific written application from the student, shall allow the student, with the concurrence of the new course instructor to undertake new courses from the list of courses approved by the Senate, provided, where applicable, the new course shall be from the student's chosen area of specialization ("Area Elective"). The course instructor shall determine the assignments, examinations, laboratory work, projects or research papers that they have to undertake and the time period over which the deficient student have to complete the tasks as assigned by the course instructor. Based on the work and performance of the student in a scheduled examination the course instructor shall assign him/her a letter grade at the end of the study period. If the grade thus obtained by the student is better than the grade obtained in the earlier course, the course shall be substituted and grade obtained shall be indicated and the new CGPA calculated. The earlier course and the grade obtained shall be indicated in the grade sheet/academic transcript, with a remark that this course has been substituted with another course and the grade has been improved. The courses declared as core or mandatory to the programme shall not be considered for substitution.
   e. This facility for improving grades shall be available only to those students whose CGPA is less than 2.40 at any point in time during their study, and may be availed for a maximum of four courses in all and for no more than two courses in any one semester.
   f. The deficient students, who have improved their grades in the aforesaid manner, will not be considered for award of any medal, or honour from the Institute.
5. Research units shall be graded as satisfactory (S) or unsatisfactory (X) and shall carry zero units for credit.

6.2.1 Course Types

1. **Course name: Reading Elective**
   a. Course Code: XX 902
   b. Course Description: Students can register for reading for carrying out focused reading on a given topic under the supervision of a faculty member.
   c. Grading Scheme: 4-point scale (A, A-, B+, B, B-, C+, C, D, F)
   d. Credits: 4 units during Term I and II; 3 units during Summer.
   e. Remarks:
      i. Students may take not more than ONE supervised reading course per semester within the permissible semester load requirements.
      ii. Depending upon the subject on which the reading is prescribed, XX to be replaced with one

of (BS, CS, DS, ESD, GEN, NC, ITS, SE). A prefix of IT may be used if the reading does not fit into any of the existing areas of specialization as determined by the faculty supervisor.

2. **Course name: Thesis**
   a. Course Code: IT 979 (MT) / IT 989 (MSR) / IT 999 (PHD)
   b. Course Description: This course is intended for MT students pursuing thesis in third semester, as well as for MSR and PHD students who have to earn the requisite number of research units in addition to course work. Students need not have begun writing their thesis for registering in this course.
   c. Grading Scheme: S (Satisfactory) or X (Unsatisfactory)
   A single letter grade for the entire set of registered units for a term.
   d. Credits: Multiples of 4 units during Term I and II; multiples of 3 units during Summer.
   e. Remarks: Semester load requirements determine the number of units a student can register for in a given term.

6.2.2 Computation of the Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA)

1. The SGPA is an indicator of the overall academic performance of a student in all the courses he/she has registered in during a given semester. It is computed as follows: If the grade points awarded to a student are G_1, G_2, ..., G_n in courses with corresponding units U_1, U_2, ..., U_n, respectively, for n courses, the SGPA is given by: SGPA = $(U_1G_1 + U_2G_2 + \ldots + U_nG_n)$ / $(U_1 + U_2 + \ldots + U_n)$.
2. In the above computation, courses with S and X grades are ignored.
3. Similarly, the CGPA indicates the cumulative academic performance in all the courses taken up to the time of computation.

6.3 Academic Performance Requirement

1. A student shall enter into academic probation if any of the following criteria are satisfied:
   a. His/her SGPA in the first semester is below 2.0.
   b. His/her CGPA after the first semester is below 2.4.
   c. He/she has obtained either D or F in two courses.
   d. He/she has accumulated Xs in two semesters towards research units/thesis grades.
2. Upon receiving a D or F in a course or an X in a semester, a warning shall be issued to the student at the beginning of subsequent semester about declining performance.
3. Upon satisfying the aforementioned criteria for academic probation, the student shall be notified at the beginning of the semester that he/she is on academic probation.
4. Academic probation lasts for a semester. The student shall be underload of not more than 12 credits. During this period the student shall mandatorily register for coursework or research units to improve CGPA where there was deficiency in performance. This implies that he/she shall mandatorily register for the courses with deficient performance under the grade improvement scheme and/or for research credits where unsatisfactory performance was shown, for the purpose of obtaining satisfactory performnce. During this time the student shall not undertake any successive academic milestones required for the completion of the programme.
5. By the end of the academic probation, the Chairman, Senate may make the decision on if the student will be allowed to continue in the programme depending on:
   a. his/her academic performance while in academic probation, and
   b. the concerned thesis supervisor's recommendation in the matter.
6. Academic probation can be applied to a student only once. During or after probation, if the student gets D or F in a course or an X in a semester, the student shall not be allowed to continue on the programme.

7 Academic Milestones

7.1 Thesis, Thesis Examination & Oral Examination

7.1.1 Appointment of Thesis Supervisors

1. A student enrolled in the programme shall not normally have more than one co-supervisor at any given time.
2. Thesis supervisor(s) of a student shall normally be appointed from amongst the faculty members at the Institute.
3. Under exceptional circumstances, experts from outside can be appointed as co-supervisors of the student with the approval of the Senate. One such co-supervisor can be appointed to only one student at a time.
4. If a student's supervisor proceeds on long leave, the Senate shall appoint a supervisor or a co-supervisor in consultation with the supervisor and the student. In this case the number of supervisors may be more than two if an external supervisor already exists.
5. If all research work and related analysis is complete except writing of the thesis, and the supervisor proposes to go on leave, the Senate may appoint a stand-in supervisor.
6. In case a supervisor resigns/retires or otherwise ceases to be a faculty member of the Institute the Senate shall appoint a new supervisor or co-supervisor.

7.1.2 Constitution of Board for Thesis & Oral Examinations

7.1.2.1 Thesis Examination Board

1. The thesis shall be examined by an examination board recommended by the thesis supervisor(s)/ programme coordinator, forwarded by the Dean-Academics, and approved by Chairman, Senate.
2. The board shall consist of two members in addition to the thesis supervisor(s) approved by the Chairman, Senate. Unless some special circumstances make it impractical, these two members of the thesis examination board (other than the supervisor(s)) must be from outside the Institute and at least one of these two shall be from within the country.
3. The thesis supervisor shall act as the Convener of the Committee.

7.1.2.2 Oral Examination Board

1. The oral board shall consist of two members in addition to the thesis supervisor(s). Of the two, one shall be from among the faculty members of the Institute and one shall be from among the members of the thesis examination board from outside the Institute.
2. Under special circumstances, if both the external members from the thesis board are not available to serve on the oral board, the Chairman, Senate, shall appoint an expert in the area of the thesis, and outside the Institute, as a member of the oral examination board.

7.1.3 Submission of Thesis

1. The thesis shall be submitted only after the thesis examination board has been duly approved.
2. After the thesis examination board has been constituted, unbound copies of the thesis, one for each examiner of the board, shall be prepared according to the format prescribed in the pamphlet entitled: Specification and Information Regarding the Preparation of Thesis, and shall be submitted within a month of the constitution of the board. Two copies of the synopsis or abstract of the thesis (approximately 250 words) shall also be submitted before or along with the thesis report.
2. Examination of thesis: Members of the thesis examination board shall be requested to indicate in writing whether they:
   (a) approve the thesis without modification.
   (b) approve the thesis if modified as indicated in the evaluation report and resent to them for verification.
   (c) approve the thesis if modified as indicated in the evaluation report, but need not be resent to them.
   (d) reject the thesis

2. On receipt of reports from all the examiners, the Office of Dean-Academics shall decide the next actions. The Registrar/ Staff Officer in the Office of Dean-Academics, shall provide all the evaluation reports (after suitably hiding the identity of the examiner) to the thesis supervisor. The thesis supervisor shall get the response of the student in writing to all observations and a modified thesis in case any of the examiners has indicated (b) or (c). In case there is a difference of opinion between the thesis supervisor and the evaluator(s), the matter shall be referred to the Senate for a decision. In case any examiner has chosen (b), the modified thesis and the response of the student to the evaluation report shall be sent back to all the examiners for their examination. If at the end of second examination, no consensus could be arrived at, the matter shall be referred to the Senate for their decision.
2. In case of (d), the student shall work on the thesis according to the advice of the thesis supervisor(s) and resubmit the thesis to the thesis examination board.

7.1.4 Oral Examination

1. Oral examination shall be conducted within one month from the date of receipt of final evaluation reports and response of the student. If extenuating circumstances do not permit holding the exam in a reasonable period of time, say, 6 months, then the matter shall be presented to the Senate for its decision in the matter.
2. The Office of Dean-Academics shall intimate the date of the oral examination.
3. The oral examination board shall be provided with unbound copies of thesis, evaluation report of the thesis examiners and the student's response. The board shall evaluate the thesis, conduct the oral examination and send a report of the examination to the Dean-Academics, who shall forward the same to the Chairman of Senate.
   (a) The oral examination board may provide feedback to the student for minor revision of the thesis.
4. A thesis shall be considered to have been accepted if all members of the oral examination committee recommend its acceptance. If no consensus could be reached, verdict of individual examiners shall be forwarded to the Senate for the final decision.
5. If a thesis is rejected along with a recommendation for resubmission after incorporating any modification/correction suggested by the oral examination committee, oral examination of the re-submitted thesis shall be conducted by the original committee unless a different committee may be forwarded to the Dean-Academics and subsequently approved by the Chairman, Senate. If the re-submitted thesis is rejected, the matter shall be reported to the Senate for appropriate action.
6. The oral examination consists of two parts, namely, a presentation open to the public and viva voce restricted to the examinee and the examiners.
7. The student shall make a minor revision of the accepted thesis using the feedback from the oral examination board and make a final submission of the thesis to the Registrar/ Staff Officer in the Office of Dean-Academics and the Institute Library.
8. Upon final submission of the thesis, the acceptance of thesis shall be reported to the Senate for recommendation of award of degree.

8 Graduation Requirements

1. A student shall be deemed to have completed the graduation requirements if the student has:
   a. passed all the prescribed courses,
   b. attained the minimum required CGPA,
   c. satisfied the minimum academic and residence requirements,
   d. the thesis has been approved by the thesis examination board and by the oral board,
   e. satisfied all the requirements specified by the Senate and the Ordinances.
2. In addition, the student should have paid all the dues to the Institute and, should have no pending case of indiscipline.

9 Special Admission to PHD Programme

9.1 Guidelines for Special Admissions of MSR Students to the PHD Programme

1. A student registered for MSR programme desirous of pursuing PHD programme at the Institute shall have the option of requesting for a special admission to the PHD programme, after the submission of the thesis to the thesis examination board.
   a. This provision may be considered to be a special admission to the PHD programme, where the student may bypass the regular selection process in the PHD admissions process and request the Chairman, Senate, for the same.
2. Candidates desiring to be admitted to the PHD programme, after submission of the MSR thesis to the thesis examination board, shall submit a request for the same to the Chairman, Senate, before completion of all requirements for the MSR programme.
3. All such cases shall be considered by a Committee consisting of the following :
   a. A faculty member in the area of specialisation/research domain, other than the proposed supervisor(s), nominated by the Chairman, Senate (Chairperson).
   b. Coordinator for MSR programme.
   c. Two faculty members, nominated by the Chairman, Senate.
   d. Thesis supervisor(s) proposed for the student's PHD registration.
      i. Where the programme coordinator is the proposed thesis supervisor, the Chairman, Senate shall identify another member of the faculty to serve on the committee.
4. The Committee shall evaluate such candidates within one month after submission of the request.
5. The report and recommendation of the Committee in such cases shall be considered by the Senate for approval. After receiving the approval of the Senate:
   a. The candidate shall apply for registration for PHD. The registration would be provisional subject to the award of the MSR degree.
   b. The date of registration for the PHD programme shall be the date of the submission of the MSR thesis to the thesis examination board.
   c. The academic requirements for the PHD programme shall be the same as those for a student admitted to the programme after selection through regular admissions process.
   d. For provisional candidates entering through special admission after submission of MSR thesis at the Institute, the period for provisional admission shall be upto the beginning of the third semester for completion of all requirements for graduation to the qualifying degree, failing which their admission shall be cancelled.
   e. The student's MSR registration shall continue to be valid until the candidate completes all requirements of the MSR programme.
   f. If the date of registration for the PHD programme happens to be after the last date for course registration for the semester, the candidate in consultation with the thesis supervisor shall intimate the Registrar of, which of the courses registered for that semester will be considered as part of the MSR registration and PHD registration, respectively.
   g. The Doctoral Advisory Committee (DAC) for the student shall be constituted upon the Senate's approval of the student's request for admission.
6. The credits acquired by the student during the MSR programme shall not be considered as a part of the course requirements for the PHD programme. However, the student, in consultation with the DAC, may request the Senate for waiver for the coursework required for meeting the minimum credits for coursework in the PHD programme.
7. The Comprehensive Examination for PHD may be conducted before the end of the third semester in the PHD programme.

10 Power to Remove Difficulties

1. If any difficulty arises in giving effect to the provisions of this manual, the Chairman, Senate may, by an order, make such provisions, not inconsistent with the provisions of this manual, as appear to it

to be necessary or expedient for removing the difficulty.

2. Every order made under sub-section (1.) shall be laid, as soon as may be after it is made, before the Senate for ratification.