

ICTS Course Structure (2017)

Semester	I.PhD (B.Sc)	I.PhD (B.Tech/ M.Tech/ BS)	Ph.D
I (Aug-Nov)	Classical Mechanics (ICTS) (4)	will be updated soon	Statistical Physics (ICTS) (4)
	Quantum Mechanics I (IISc) (4)		Classical Mechanics (ICTS) (4)
	Math methods (IISc) (4)		Quantum Mechanics (II) (ICTS) (4)
	Fundamentals of Astrophysics (IISc) (4)		Elective 1 (4)
	Elective 1 (4)		
II (Jan-Apr)	Quantum Mechanics (II) (IISc) (4)		Classical Fields and Hydrodynamics (ICTS) (4) OR Statistical and quantum field theory (4)
	Electromagnetic Theory (ICTS) (4)		Elective 2 (4)
	Cond. Matter phys – I (IISc) (4)		Advanced Lab (ICTS) (12)
	Basic Lab (ICTS) (8)		
Summer (May-July)	Theory Project 1 (8)		Theory project 1 (8)
III (Aug- Nov)	Statistical Physics (ICTS) (4)		Reading course /Elective 3 (4)
	Elective 2 (4)		Reading course (4)
	Advanced Lab (ICTS) (12)		Theory Project 2 (8)
IV (Jan-Apr)	Classical fields and Hydrodynamics (ICTS) (4) OR Statistical and quantum field theory (4)		
	Elective 3 (4)		
	Reading course/Elective 4 (4)		
Summer (May-July)	Theory project 2 (8)		
V (Aug-Nov)	Reading course (4)		
	Theory Project 3 (8)		
Total credits	100	80	60

Some notes on core courses, reading courses and projects

- 1) Core courses are compulsory. If a student feels that he/she already knows the course well enough, they have the option of taking a drop test in the beginning of the course. A satisfactory performance ($> B$) then allows the student to automatically earn credits for the course.
- 2) Reading courses can be taken by students with any faculty member at ICTS. It is required that the course be graded through regular assignments or through two exams (mid-term and final) or a combination of these. Based on these a final mark and grade will be given.
- 3) Projects can be done with any faculty member at ICTS. The student will be graded based on
 - (i) a project report to be examined by the project guide
 - (ii) a seminar presentation to be examined by a two-member committee. The weightage on these will be equal and, based on these, a final mark and grade will be given.

Comprehensive Examination

Ph.D students have to register for Ph.D before two years and Int.-Ph.D students have to register for Ph.D before three years after joining ICTS. Before registering, students have to choose their prospective advisor. They are also required to give a comprehensive examination, whose structure is as follows:

1. The student will have to give a written test followed by an oral examination.
2. The written test will be based on a pre-set syllabus which includes three core courses, namely, classical mechanics, quantum mechanics and statistical physics, and one special course, which will be selected in consultation with the advisor.
3. Duration of the written exam will be 3-4 hrs while the oral exam will be around 1-2 hrs.
4. The assessment panel will comprise of the student's advisor, an external faculty and another ICTS faculty member. The panel will be chaired by the ICTS faculty member (non-advisor).

The students will receive a degree through the Physics /Subject Board of the Graduate School of TIFR.