




Syllabus

Fourth Semester Courses in MSc Physics (November 2024 onwards)

- **Research Project:**
 - PSPHY6502RP1 – Dissertation
- Evaluation and Assessment guidelines

APPROVED SYLLABUS




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Fourth Semester Courses in

MSc Physics

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- **Research Project:**
 - PSPHY6502RP1 – Dissertation
- Evaluation and Assessment guidelines

MSc-II in Physics		
Course Title: Dissertation		
Course Code: PSPHY6502RP1		
Credits 22: 660 hr		
Prerequisite: Students who have completed a Four-Year Bachelor Degree in Science with Physics Major or a postgraduate diploma in Physics (Level 6); Proficiency in Python programming is mandatory.		
No.	Course Objectives	
1	To execute a research project in physics and/or astrophysics under the guidance of an academic advisor.	
2	To effectively communicate the outcome of the project through a comprehensive thesis followed by a viva examination.	
CO	Course Outcomes On completing the course, the learner will be able to	Bloom's Taxonomy Level (BT level)
1	Recall fundamental concepts necessary to perform advanced studies in the selected research area.	Remembering
2	Demonstrate understanding of relevant advanced literature along with the experimental and/or computational skills required to execute a research project.	Understanding
3	Organize and structure different aspects of the research project with efficient management of time and other resources.	Applying
4	Analyze the results of the study with proactive collaboration with the academic advisor and other researchers if any.	Analyzing
5	Defend the results scientifically through viva evaluation in front of a panel of evaluators.	Evaluating
6	Elaborate on the details of the novel research study and its outcomes in written form through a thesis.	Creating

General guidelines for the research proposal and dissertation

1. Students must discuss and get approval from the course coordinator before approaching potential research guides for the dissertation. Any faculty member from the college Physics department may guide a thesis. Students may also work with a researcher at other reputed universities/colleges/research institutes, or with faculty of other departments of the college, if deemed suitable.

2. Students must maintain a regular log of their activities throughout the semester leading up to the submission of the research proposal to the department by the end of Semester 3. The student may proceed with the project only on approval of the research proposal.
3. All students will be assigned a mentor from the college Physics department.
4. There will be a mid-term review in Semester 4. A brief project report must be submitted with details of the work already done and outline the work to be done in the next few months. The mid-semester evaluation will also include a presentation and viva which will be conducted by two internal examiners. In the case of students who are out of town and unable to travel to the college, the mid-semester presentation may be conducted in online mode, but only after obtaining prior approval for the same.
5. The report and presentation will be evaluated independently by both the internal examiners. An average of the two will be calculated.
6. After mid-semester evaluation, for any student to continue the project, a minimum score of 40 per cent is mandatory. If a student scores less than that, he/she has to start the project afresh. It can be with the same guide or a new guide.
7. Students are expected to work regularly throughout the semester. They should have regular interaction sessions with the guide preferably every day, or at least on a weekly basis, and should remain in e-mail contact with the guide, if required. The departmental mentor will keep track of the weekly record of progress of the student.
8. Continuous assessment throughout Semester 4 will consist of grading of the student's regularity and aptitude by the guide, grading of weekly progress reports by the departmental mentor, the student's participation in departmental co-curricular events, etc.
9. The research proposal, mid-term evaluation report and the final thesis will not be accepted without the signature of the dissertation guide. The final thesis should also be signed by the departmental mentor at the time of submission.
10. The submitted copy of the final thesis will be kept in the department archives. All theses submitted shall become the permanent physical property of the college. St. Xavier's College will retain the ownership of the copyright of the thesis. (This will stay until St. Xavier's comes up with thorough copyright norms).
11. A committee with at least one external referee will evaluate the thesis. The student will make a presentation in front of the thesis evaluation committee, followed by viva questions. In both instances, the evaluators will grade the student individually and the average of marks given by all examiners on the committee will be used.
12. The total marks will be used for calculating the final CGPA with 22 credits for the project work.
13. Students getting less than 40% will fail in the project.

Evaluation of Research Project Course (PSPHY6502RP1):

Total marks - 700

CIA – 300 marks

Mode of CIA: Reports/Presentations

End Semester Examination – 400 marks

Distribution of Bloom’s Taxonomy levels for research project course assessment

Learning Levels	Remember	Understand	Apply	Analyze	Evaluate	Create
Percentage	0-5%	5-10%	20-25%	25-30%	20-25%	20-25%
