



Sir P. T. Sarvajanik College of Science (Autonomous)
Athwalines, Surat-395001

Semester IV



M. Sc. (Physics) SEMESTER IV

COURSE TITLE: Dissertation Project

COURSE CODE: PHYMSC-S4DP1-24CR25 [CREDITS - 24]

Dissertation Project	Course Code: PHYMSC-S4DP1-24CR25	
	Course Learning Outcomes	
<p>After the successful completion of the course, learners will be able to</p> <ul style="list-style-type: none"> apply research methodologies to design, execute and analyze a physics-based project, demonstrating problem-solving and critical thinking skills. analyze experimental or theoretical data using advanced physics concepts and computational tools to draw meaningful conclusions. develop a comprehensive project report that effectively communicates research findings, methodologies and interpretations. present research outcomes clearly and confidently through oral and written presentations, demonstrating depth of understanding and scientific rigor. 		
Dissertation Project		[48 hrs per week]
<p>Learning Objectives: This course is intended to</p> <ul style="list-style-type: none"> introduce the students to research methodologies and analytical techniques to investigate complex physics problems and develop independent research skills demonstrate the ability to analyze data, interpret results and effectively communicate scientific findings through reports and presentations. 		
<p>Learning Outcomes: After the successful completion of the course, learners will be able to</p> <ul style="list-style-type: none"> apply research methodologies to design, execute and analyze a physics-based project, demonstrating problem-solving and critical thinking skills. analyze experimental or theoretical data using advanced physics concepts and computational tools to draw meaningful conclusions. develop a comprehensive project report that effectively communicates research findings, methodologies and interpretations. present research outcomes clearly and confidently through oral and written presentations, demonstrating depth of understanding and scientific rigor. 		
<p>Guidelines:</p> <ul style="list-style-type: none"> Every student shall work on a project under a faculty member of the department. Project work may be carried out within the department or in other department or from other institution institutions (e.g. Research Organizations, Industries, etc.) (if required). Allotment of the supervisors shall be done by the Department. The supervisor shall act as the instructor for this course on project and make continuous assessment every 30 days based on the understanding/ literature survey, experimental/ theoretical formulation, performance, interpretation of results and writing of Report. 		



- End-semester evaluation will be based on evaluation of report, presentation and viva voce examination of the candidate at the end of the semester by a panel of examiners.
- In case, if a student fails to complete the project work at other institutions (e.g. Research Organizations, Industries, etc.), then other institution has to intimate the college 45 days prior to the date of submission of report. In such cases, student has to complete the equivalent course work* in the department.

Online Learning resources:

- https://onlinecourses.swayam2.ac.in/cec20_hs17/preview
- https://onlinecourses.nptel.ac.in/noc22_ge08/preview

Note:

- Students have to submit the copies of the report in due time (declared by the Department).
- Student has to prepare a PowerPoint presentation comprising all his/her project work (e.g. problem statement, literature review, data collection, results and discussion, etc.) (wherever applicable). The duration of the presentation shall be 30 minutes (maximum).
- Student's report and PowerPoint presentation shall be evaluated by a panel of examiners decided by the Department Officials.

*Equivalent courses can be defined by the respective supervisor at the home institute, for example such students may be asked to write a review article and write a brief research proposal in the subject/domain in which student has or hasn't already studied previously.

Evaluation Scheme

Dissertation Project	CIA	Report + Presentation	Total
%	30%	70%	100%
Marks	120	280	400

Mapping of CLOs and PSOs

Course Learning Outcomes	Programme Outcomes					
	1	2	3	4	5	6
<ul style="list-style-type: none"> • apply research methodologies to design, execute and analyze a physics-based project, demonstrating problem-solving and critical thinking skills. 	√	√	√			
<ul style="list-style-type: none"> • analyze experimental or theoretical data using advanced physics concepts and 	√	√			√	



computational tools to draw meaningful conclusions.						
<ul style="list-style-type: none">develop a comprehensive project report that effectively communicates research findings, methodologies and interpretations.			√	√	√	√
<ul style="list-style-type: none">present research outcomes clearly and confidently through oral and written presentations, demonstrating depth of understanding and scientific rigor			√	√	√	√