



DEPARTMENT OF PHYSICS

COURSE PLAN – PART I			
Name of the programme and specialization	B.Tech. Electrical & Electronics Engineering (EEE)		
Course Title	PHYSICS – II		
Course Code	PHIR12	No. of Credits	2
Course Code of Pre-requisite subject(s)	NIL		
Session	July 2021	Section (if, applicable)	A
Name of Faculty	Dr. Santhosh Kumar M.C.	Department	PHYSICS
Official Email	santhoshmc@nitt.edu	Telephone No.	04312503611
Name of Course Coordinator(s) (if, applicable)	Dr. T. Sonamani Singh		
Official E-mail	takhel@nitt.edu	Telephone No.	
Course Type (please tick appropriately)	Core course <input checked="" type="checkbox"/> Elective course <input type="checkbox"/>		
Syllabus (approved in BoS)			
Laboratory Experiments <ol style="list-style-type: none">1. Determination of rigidity modulus of a metallic wire2. Wavelength of laser using diffraction grating3. Dispersive power of a prism – Spectrometer.4. Radius of curvature of lens – Newton’s Rings5. Numerical aperture of an optical fiber6. Field along the axis of a Circular coil7. Wavelengths of white light – Spectrometer8. Calibration of voltmeter- potentiometer			
COURSE OBJECTIVES			
<ol style="list-style-type: none">1. To introduce the spirit of experiments to verify physics concepts such as reflection, refraction, diffraction and interference on light matter interaction.2. To perform experiments to estimate the materials properties and to check their suitability in science and engineering.3. To familiarize physics concepts and to design instruments and experimental set up for better and accurate measurements.4. To teach and apply knowledge to measure and verify the values of certain constants in physics.			



MAPPING OF COs with POs	
Course Outcomes On completion of this course, the students will be able to	Programme Outcomes (PO) (Enter Numbers only)
1. Know how to calibrate a galvanometer and convert it into a current and voltmeters.	1, 2
2. Make experimental setup to verify certain physics concepts of wave and particle nature of light.	1, 2
3. Understand the light propagation in fibers, light matter interaction and use of lasers in science and engineering.	1, 2
4. Acquire knowledge, estimate and suggest materials for engineering applications.	1, 2

COURSE PLAN – PART II			
COURSE OVERVIEW			
<ul style="list-style-type: none"> Physics-II (Code: PHIR12) is a laboratory course offered in the first year to all branches of undergraduate engineering students. The course carries 2 credits. In the first semester all students of circuit branches undergo this course. 			
COURSE TEACHING AND LEARNING ACTIVITIES			(Add more rows)
S.No.	Week/Contact Hours	Topic	Mode of Delivery
1.	4 th week of December 2021	Radius of curvature of lens-Newton's Rings	Demonstration, training & clarifications using VC Mode and V lab
2.	5 th week of December 2021	Dispersive power of a prism – Spectrometer	Demonstration, training & clarifications using VC Mode and V lab
3.	1 st week of January 2022	Wavelengths of white light – Spectrometer.	Demonstration, training & clarifications using VC Mode and V lab
4.	2 nd week of January 2022	Field along the axis of a Circular coil	Demonstration, training & clarifications using VC Mode and V lab
5.	3 rd week of January 2022	Quiz	MS teams
6.	4 th week of January 2022	Wavelength of laser using diffraction grating.	Demonstration, training & clarifications using VC Mode or V lab
7.	1 st Week of February	Numerical aperture of an optical fiber.	Demonstration, training & clarifications using VC Mode and V lab
8.	2 nd week of	Determination of rigidity modulus of a metallic	Demonstration, training



	February	wire.	& clarifications using VC Mode and V lab
9.	3 rd Week of February	Calibration of voltmeter- potentiometer	Demonstration, training & clarifications using VC Mode and V lab
10.	4 th Week of February 2022	Quiz	MS teams
11.	2 nd week of March 2022	Final Examination	Using MS teams/V lab

COURSE ASSESSMENT METHODS (shall range from 4 to 6)

S.No.	Mode of Assessment	Week/Date	Duration	% Weightage
1	Assessment – I	3 rd week of January 2022	30 min	20
2	Assessment – II	4 th Week of February 2022	30 min	20
3	Assessment – III: Lab Record submission	1 st week of March 2022		30
CPA	Compensation Assessment*	1 st week of March 2022	30 min	Appropriate weightage will be taken
5	Final Assesment	2 nd week of March 2022	3 Hrs.	30

COURSE EXIT SURVEY

(mention the ways in which the feedback about the course shall be assessed)

- Conduct the viva-voce and lab record correction for every experiment at the end of each practical class.
- Performance in the assessment methods.
- Questionnaire about the effectiveness of the experience, experiments, and the knowledge gained.
- Final assessment could be an experiment followed viva-voce on the theory and practice of the given experiment.

COURSE POLICY (including compensation assessment to be specified)

MODE OF CORRESPONDENCE (email/ phone etc)

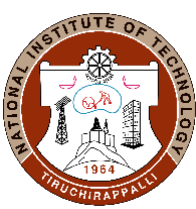
- Both e-mail (santhoshmc@nitt.edu) and phone/mobile (0431-250-3611).

COMPENSATION ASSESSMENT POLICY

- One lab session of 4 hours will be given to compensate any missing laboratory assessment with 15% weightage only.

ATTENDANCE POLICY (A uniform attendance policy as specified below shall be followed)

- 100 % attendance is required to complete this laboratory course
- At least 75% attendance in each course is mandatory.



- A maximum of 10% shall be allowed under On Duty (OD) category.
- Students with less than 65% of attendance shall be prevented from writing the final assessment and shall be awarded 'V' grade.

ACADEMIC DISHONESTY & PLAGIARISM

- Possessing a mobile phone, carrying bits of paper, talking to other students, copying from others during an assessment will be treated as punishable dishonesty.
- Zero mark to be awarded for the offenders. For copying from another student, both students get the same penalty of zero mark.
- The departmental disciplinary committee including the course faculty member, PAC chairperson and the HoD, as members shall verify the facts of the malpractice and award the punishment if the student is found guilty. The report shall be submitted to the Academic office.
- The above policy against academic dishonesty shall be applicable for all the programmes.


ADDITIONAL INFORMATION, IF ANY

Books for References

1. Physics Laboratory Manual, Department of Physics, National Institute of Technology Tiruchirappalli (2018).
2. Practical Physics, R.K. Shukla, Anchal Srivastava, New age international (2011).
3. B.Sc. Practical Physics, C.L Arora, S. Chand & Co. (2012).

FOR APPROVAL

Course Faculty 

CC- Chairperson 
Karthik Thirumala

HOD EEE 



Guidelines

- a) The number of assessments for any theory course shall range from 4 to 6.
- b) Every theory course shall have a final assessment on the entire syllabus with at least 30% weightage.
- c) One compensation assessment for absentees in assessments (other than final assessment) is mandatory. Only genuine cases of absence shall be considered.
- d) The passing minimum shall be as per the regulations.

B.Tech. Admitted in				P.G.
2018	2017	2016	2015	
35% or (Class average/2) whichever is greater.		(Peak/3) or (Class Average/2) whichever is lower		40%

- e) Attendance policy and the policy on academic dishonesty & plagiarism by students are uniform for all the courses.
- f) Absolute grading policy shall be incorporated if the number of students per course is less than 10.
- g) Necessary care shall be taken to ensure that the course plan is reasonable and is objective.