

NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI

Course Title	Solid State Physics		
Course Code	PH661	No. of Credits	3
Department	Physics	Faculty	Dr. R.NAGALAKSHMI
Pre-requisites Course Code	-NIL-		
Course Coordinator(s) (if, applicable)	- Nil-		
Course Teacher(s)/Tutor(s) E-mail	nagalakshmi@nitt.edu	Telephone No.	0431 - 2503615
Course Type	Core course		
COURSE OVERVIEW			
To impart basic knowledge on <i>Condensed Matter Phase – introduction</i> <i>Structure and property relationship in materials</i> <i>Classification of materials such as conductors, semiconductors insulators and superconductors</i>			
COURSE OBJECTIVES			
To have an appreciation on the physics and structure property relationships of materials such as conductors, semiconductors, dielectric, magnetic and superconducting.			
COURSE OUTCOMES (CO)			
Course Outcomes		Aligned Programme Outcomes (PO)	
Grasping the significance of transport and thermodynamic properties of materials will enable students to understand the basics of physics in condensed state		To acquire proper knowledge on materials and its properties	
COURSE TEACHING AND LEARNING ACTIVITIES			
S.No.	Week	Topic	Mode of Delivery
1	1-3	Unit I- Introduction	Power Point
2	4-6	Unit II - Conductors, Semiconductors and Dielectrics	Derivations in Board Problem discussions
3	7-9	Unit III - Transport and Thermodynamic Studies	
4	10-12	Unit IV – Magnetism	
5	13-15	Unit V – Superconductivity	

COURSE ASSESSMENT METHODS				
S.No.	Mode of Assessment	Week/Date	Duration	% Weightage
1	Cycle Test - I	4 th week	1 hour	20%
2	Cycle Test – II	9 th week	1 hour	20%
3	Assignment on problems	11 th week	3 days will be given for submission	10%
4	Final exam	From 13 th week	3 hrs	50%

ESSENTIAL READINGS : Textbooks, reference books Website addresses, journals, etc

1. Charles Kittel, Introduction to Solid State Physics, Wiley Eastern, 5th edition, (1983).
2. T.H.K. Barron and G.K. White, Heat capacity and Thermal Expansion at Low Temperatures, Kluwer Academic/Plenum Publishers, New York (1999).
3. N.W. Ashcroft and N.D. Mermin, Solid State Physics, Cengage Learning (2010).
4. Ali Omar, Elementary Solid State Physics, Pearson Education India (1999).
5. J.S. Blakemore, Solid State Physics, 2nd edition, Cambridge University Press (1974).

COURSE EXIT SURVEY

Feed backs will be obtained from students after the completion of internal assessments particularly for their basic understanding, interest, independent thinking towards the subject.

Further it will be helpful for the faculty for any improvement in methodology of teaching, if required. Also, after II internal assessment, feedback will be obtained to check the essential aspects are fulfilled.

COURSE POLICY (including plagiarism, academic honesty, attendance, etc.)

Attendance : Mandatory (Attendance register will be maintained). 75% attendance is Mandatory.

Retest for internal assessments will be conducted on genuine grounds

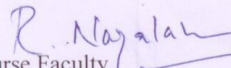
Academic honesty: Obedience and discipline, also free to express their genuine thoughts, doubts and encourages discussions.

ADDITIONAL COURSE INFORMATION

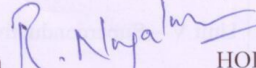
The course teacher is available for discussion and clarification during their free times.

Extra classes may also be conducted based on the necessity

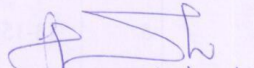
FOR SENATE'S CONSIDERATION


Course Faculty

CC-Chairperson


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25/A/2018