

K L E F

(Deemed to be University estd. U/S 3 of the UGC Act, 1956)

DEPARTMENT OF PHYSICS

3rd Board of Studies Meeting

28th Sept. 2020


Dr. G. SUNITHA SUNDARI
Head of the Department
Department of Physics
Koneru Lakshmaiah Education Foundation
(Deemed to be University)
Green Fields, Vaddeswaram-522 302,
Guntur Dist., A.P., India.



Koneru Lakshmaiah Education Foundation

(Category -1, Deemed to be University estd. u/s. 3 of the UGC Act, 1956)

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Campus: Green Fields, Vaddeswaram - 522 302, Guntur District, Andhra Pradesh, INDIA.

Phone No. 08645 - 350200; www.klef.ac.in; www.klef.edu.in; www.kluniversity.in

Admin Off: 29-36-38, Museum Road, Governorpet, Vijayawada - 520 002. Ph: +91 - 866 - 3500122, 2577715, 2576129.

XXX Academic Council - Annexure 2.8

Department of Physics

Minutes of 3rd Board of Studies Meeting

The Departments' 3rd BOS meeting is held on 28th September, 2020, from 3:00 PM to 5:00 PM in Room No..F201

The following members attended:

1. Dr. G. Sunita Sundari, Head of the Dept. and Associate Professor, BOS-Chairperson
2. Dr.M.Venkateswartlu, Asst. Professor
3. Prof. J. Suryanarayana Murty, Professor, Dept. of Physics, IIT Hyderabad
4. Prof. K. S. Ramesh, Professor, Dept. of ECE, KLEF
5. Dr. G. China Satyanarayana, Assoc. Professor, Dept. of ECE, KLEF
6. Dr.N.S.M.P. Latha Devi, Associate Professor
7. Dr. K.Swapna, Associate Professor
8. Dr.Sk. Mahamuda, Associate Professor
9. Dr. M V V K Srinivas Prasad, Asst. Professor
10. Dr. A.Venkateswara Rao, Asst. Professor
11. Sk.Babu, Asst. Professor
12. Dr. S. Shanmugan, Asst. Professor
13. Mr M Gnana Kiran, Asst. Professor
14. Prof. B.V. Appa rao, Professor, HOD, Dept. of Mathematics
15. Prof. J.V. Shanmukha Kumar, Professor, HOD, Dept. of Chemistry

Sunita
Dr. G. Sunita Sundari
Head of the Department
Department of Physics
Koneru Lakshmaiah Education Foundation
(Deemed to be University)
Green Fields, Vaddeswaram-522 302,
Guntur Dist., A.P., India.

Contents

Item No.	Item Description
1	Follow-up actions on the Minutes of the previous meetings of the Board of Studies of Department of Physics, KLEF
2	Introduce the new courses entitled 'Design Thinking and Innovation-1 and Design thinking and Innovation -2 for the A.Y: 2020-21

AGENDA ITEMS

Agenda Item 1

To consider and approved the previous BoS meeting minutes held on 20th June, 2019.

Follow-up actions on the Minutes of the previous meetings of the Board of Studies of Department of Physics, KLEF

AGENDA ITEM-2

Proposed to add new courses Design thinking and Innvoation-1 and Design thinking and Innvoation-2

Recommended for the approval of Academic Council

Discussion:

Based on the feedback given by the academic peers, and industrial persons to enhance the entrepreneurship skills of the students two new courses entitled as Design thinking and Innvoation-1 and Design thinking and Innvoation-2 are proposed to include in M.Sc Physics 2020-22 curriculum.

Resolution:

It is resolved to include the two new courses entitled as Design thinking and Innvoation-1 and Design thinking and Innvoation-2 offered in the academic year 2020-21 to enhance the entrepreneurship skills of students as given in Annexure-1.

AGENDA ITEM-3

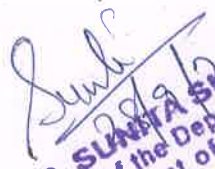
Proposed M.Sc Physics course structure for the Y20 Batch (2020-21)

Recommended for the approval of Academic Council

BOS Chairman presented the detailed M.Sc Physics curriculum for 2020 admitted batch to the all members. Proposed M.Sc Physics course structure given in Annexure 2, and the inclusion of PDD file prepared for the Y20 batch students. The same has been recommended to the Academic council for the necessary approval.

MEMBERS ATTENDED THE BOARD OF STUDIES MEETING, DEPARTMENT OF PHYSICS

S. No.	Name	Designation	Position	Signature
1	Dr. Raghuveer	Professor	BOS Patron	
2	Dr. G. Sunita Sundari	Associate Professor	BOS-Chairperson	ABSENT
3	Dr. M. Venkateswarlu	Asst. Professor	BOS-Secretary	
4	Prof. J. Suryanarayana Murty	Asso. Professor, Dept. of Physics, IIT Hyderabad, Telangana. Mobile No. 9676212499 Office: 040-23017085 E-mail: surya@iith.ac.in	External Member & Expert	
5	Dr. V.N. Mani	Scientist-E, C-MET, Telangana, Mobile No. 07382489862 E-mail: vnmanicrystal1272001@gmail.com	External Member & Expert	ABSENT
6	Dr. N. S. M. P. Latha Devi	Associate Professor, Dept. of Physics	Internal Member	
7	Dr. Sk. Mahamuda	Associate Professor	Internal Member	
8	Dr. M V V K Srinivas Prasad	Assistant Professor	Internal Member	
9	Dr. N. Krishna Jyothi	Assistant Professor	Internal Member	
10	Dr A Venkateswara Rao	Assistant Professor	Internal Member	
11	Dr Sk Babu	Assistant Professor	Internal Member	
12	Dr S. Shanmugham	Assistant Professor	Internal Member	
13	Mr M Gnana Kiran	Assistant Professor	Internal Member	
14	Dr. B. V. Appa Rao	Professor, HOD, Dept. of Mathematics	Internal Member	


Dr. G. SUNITA SUNDARI
 Head of the Department
 Department of Physics
 Koneru Lakshmaiah Education Foundation
 (Deemed to be University)
 Green Fields, Vaddeswaram-522 302
 Guntur Dist., A.P., India.

Annexure-1

20UC1102-DESIGN THINKING AND INNOVATION – 1

L-T-P-S : 1-0-0-4

Credits : 2

Pre-requisite: NIL

Course Outcomes (COs) – Program Outcomes (POs) – Blooms Taxonomy Levels (BTL) Mapping Table:

CO#	Course Outcome	PO	BTL
CO1	Understand the basics of design thinking and its implications in product or service development	PO1	2
CO2	Understand and Analyse the requirements of a typical problem	PO2	4
CO3	Plan the necessary activities towards solving the problem through ideation and prototyping	PO4, PO5, PO11	4
CO4	evaluate the solution and refine them based on the customer feedback	PO3, PO9	5

SYLLABUS:

Overview of Design Thinking: Define Design Thinking, Differentiate Design Thinking from Design, Get an Overview of the Design Thinking Process, Empathize and Understand: Explain how empathy influences the outcomes of Design Thinking, List Different Empathy Research Techniques, Define the Guidelines for an Empathetic Research,

Defining Needs: Explain how PoV can be used in defining the design problem, Use a structured approach to arrive at a PoV,

Ideation for Solutions: List the best practices for conducting a successful ideating session, Describe the techniques for evaluating and prioritizing ideas, Prototyping: Define prototyping, Explain how prototyping aids in communicating ideas effectively, List various tools for prototyping,

Testing the Solution: Define the steps of a successful testing approach, Demonstrate the process of gathering and responding to user feedback.

REFERENCE BOOKS:

1. The Design Thinking Playbook: Mindful Digital Transformation of Teams, Products, Services, Businesses and Ecosystems


G. Subrahmanya
Head of the Department
Department of Physics
Koneru Lakshmaiah Education Foundation
(Deemed to be University)
Green Fields, Vaddeswaram-522 302,
Guntur Dist., A.P., India.

20UC1203-DESIGN THINKING AND INNOVATION - 2

L-T-P-S : 1-0-0-4

Credits : 2

Pre-requisite: NIL

Course Outcomes (COs) – Program Outcomes (POs) – Blooms Taxonomy Levels (BTL) Mapping Table:

CO#	Course Outcome	PO	BTL
CO 1	Understand the problem statement, requirements and formulating approaches to solve real world problems.	PO1, PO2	2
CO 2	Implementing Design Thinking Framework.	PO3	5
CO 3	Develop innovative thinking ability through design thinking and also develop metrics for successful implementation of Design Thinking.	PO4, PO5, PO11	4
CO 4	Understand the copyright, IPR, Trademark, Patent and license agreement policies for protecting own R&D innovations and enhancing brand image.	PO3, PO9	2

Syllabus

Design Thinking for Problem Solving Mindset: Understanding Problem Statements, Recapping Design Principles, Design Thinking Toolsets, Formulating approaches to Solutions, Applications of Design Thinking: Case Study

Designing Services: Functional requirements, User requirements, Designing for sustainability and resilience, Case study


Designing Thinking for Space and Environment: Functional requirements, user requirements, Implementing Design Thinking Framework, Case study

Design Thinking and Innovation Management Culture: How design thinking leads to innovative thinking, Business model thinking, How design Thinking can lead to next generation customer experience, Metrics for successful implementation of Design Thinking

Intellectual property and protection of ideas: Concepts of copyright, Intellectual Property, Trademark, Service mark Patent and typical business benefits, applying for patent, Product license agreement, Open-source license, need for protecting own R&D innovations, Enhancing brand image with IP

REFERENCE BOOKS:

1. The Design Thinking Playbook: Mindful Digital Transformation of Teams, Products, Services, Businesses and Ecosystems


C. SRINIVAS RAO
Head of the Department
Department of Physics
Koneru Lakshmaiah Education Foundation
(Deemed to be University)
Green Fields, Vaddeswaram-522 302,
Guntur Dist., A.P., India.

PROPOSED AND REVISED M. SC (PHYSICS) COURSE STRUCTURE FOR Y20 (2020-21) (CHOICE BASED CREDIT SYSTEM (CBCS))

Sl No	Course Code	Course Title	Type	L	T	P	S	Cr	CH	Pre- Requisite	New Course/Revised Course/ Retained Course	Focused on
1	19PH5101	Mathematical Physics	PC/M	4	0	0	0	4	4	NIL	Retained	Employability
2	19PH5102	Classical Mechanics	PC/M	4	0	0	0	4	4	NIL	Retained	Employability
3	19PH5103	Electrodynamics	PC/M	4	0	0	0	4	4	NIL	Retained	Employability
4	19PH5104	Analog Electronics	PC/M	4	0	0	0	4	4	NIL	Retained	Employability
5	19PH5105	Computational Physics	PC/M	4	0	0	0	4	4	NIL	Retained	Employability
6	19PH5106	Analog Electronics Lab	PC/M	0	0	6	0	3	6	NIL	Retained	Employability/Skilling
7	19PH5107	Computational Physics Lab	PC/M	0	0	4	0	2	4	NIL	Revised	Employability
8	19PH5108	Seminar-1	PC/M	0	0	2	0	1	2	NIL	Retained	Employability
9	19PH5201	Statistical Mechanics	PC/M	4	0	0	0	4	4	NIL	Retained	Skilling
10	19PH5202	Quantum Mechanics-1	PC/M	4	0	0	0	4	4	NIL	Retained	Employability
11	19PH5203	Fiber Optics and Non-linear optics	PC/M	4	0	0	0	4	4	NIL	Retained	Employability
12	19PH5204	Solid State Physics-1	PC/M	4	0	0	0	4	4	NIL	Retained	Employability
13	19PH5205	Digital Electronics	PC/M	4	0	0	0	4	4	NIL	Revised	Employability
14	19PH5206	Solid State Physics-1 Lab	PC/M	0	0	6	0	3	6	NIL	Retained	Employability
15	19PH5207	Digital Electronics Lab	PC/M	0	0	4	0	2	4	NIL	Revised	Skilling
16	19PH5208	Seminar-2	PC/M	0	0	2	0	1	2	NIL	Revised	Skilling
17	20UC1102	Design Thinking and Innavaation-1	UC	1	0	0	4	2	5	NIL	Retained	Skilling
18	19PH5301	Quantum Mechanics-2	PC/M	4	0	0	0	4	4	Q M-1	New Course	Skilling/ Entrepreneurship
19	19PH5302	Atomic and Molecular Spectroscopy	PC/M	4	0	0	0	4	4	NIL	Retained	Employability
20	19PH5303	Nuclear Physics	PC/M	2	0	0	0	2	2	NIL	Retained	Employability
											Revised	Employability

Head of the Department
 Department of Education, Mysore
 Kannur Lakshmi Education Foundation
 (Deemed to be University)
 Srips, Vaddeswara-572 302
 Dist: Chikmagalur

21	19PH5304	Particle Physics	PC/M	2	0	0	0	0	2	2	NIL	Revised	Employability
22	19PH5305	Solid State Physics-2	PC/M	4	0	0	0	0	4	4	NIL	Revised	Employability
23	19PH5306	Lasers and Photonics	PC/M	4	0	0	0	0	4	4	NIL	Retained	Employability
24	19PH5307	Term Paper	PC/M	0	0	4	0	2	4	4	NIL	Retained	Skilling
25	19PH5308	Solid State Physics-2 Lab	PC/M	0	0	6	0	3	6	6	NIL	Revised	Skilling
26	20UC1203	Design Thinking and Innovation -2	UC	1	0	0	4	2	5	5	NIL	New Course	Skilling/ Entrepreneurship
27	19PH5401	Dissertation with Published Paper	PC/M	0	0	16	0	8	16	16	NIL	Retained	Skilling
		Electives											
		Elective-1											
28	19PH54E1	Experimental Techniques	PE	3	0	0	0	3	3	3	NIL	Retained	Employability
	19PH54E2	Basic Communication Theory	PE	3	0	0	0	3	3	3	NIL	Retained	Employability
		Elective-2											
29	19PH54E3	Physics of Nanomaterials	PE	3	0	0	0	3	3	3	NIL	Retained	Employability
	19PH54E4	Radar Systems and Satellite Communication	PE	3	0	0	0	3	3	3	NIL	Retained	Employability
		Elective-3											
30	19PH54E5	Thin film Technology	PE	3	0	0	0	3	3	3	NIL	Retained	Employability
	19PH54E6	Antenna Theory and Radio wave Propagation	PE	3	0	0	0	3	3	3	NIL	Retained	Employability
				71	0	50	8	98	129				

*PC/M – Professional Core/Mandatory; PE – Professional Elective; PW/M – Project Work/Mandatory.

Percentage of Courses focusing on Employability = No. of courses focusing on Employability / Total number of courses = 21/30 = 70

Percentage of Courses focusing on Entrepreneurship = No. of courses focusing on Entrepreneurship / Total number of courses = 2/30 = 6.66

Percentage of Courses focusing on Skill Development = No. of courses focusing on Skill Development / Total number of courses = 9/30 = 30

Dr. S. Lakshmi, S. C. 11.13.13
 Department of Physics
 K. J. Somaiya Institute of
 Engineering & Information
 Technology
 (Formerly K. J. Somaiya
 Institute of Engineering &
 Technology)
 Green Fields, Vaddeswaram-522 302
 Guntur Dist., A. P., India.

Reference for Program Structures and Syllabus Revision

S.No	Course Code	Course Name	Course Category	Existing Syllabus	New Syllabus	Topics Added/Removed/ Replaced	Change in outcome	Justification for modification	Revision Percentage
1	19PH5101	Mathematical Physics	Professional core	-	-	-	-	-	-
2	19PH5102	Classical Mechanics	Professional core	-	-	-	-	-	-
3	19PH5103	Electrodynamics	Professional core	-	-	-	-	-	-
4	19PH5104	Analog Electronics	Professional core	-	-	-	-	-	-
5	19PH5105	Computational Physics	Professional core	-	-	-	-	-	-
6	19PH5106	Analog Electronics Lab	Professional core	-	-	-	-	-	-
7	19PH5107	Computational Physics Lab	Professional core	-	-	-	-	-	-
8	19PH5108	Seminar-1	Skilling	-	-	-	-	-	-
9	19PH5201	Statistical Mechanics	Professional core	-	-	-	-	-	-
10	19PH5202	Quantum Mechanics-1	Professional core	-	-	-	-	-	-
11	19PH5203	Fiber Optics and Non-linear optics	Professional core	-	-	-	-	-	-
12	19PH5204	Solid State Physics-1	Professional core	-	-	-	-	-	-
13	19PH5205	Digital Electronics	Professional core	-	-	-	-	-	-
14	19PH5206	Solid State Physics-1 Lab	Professional core	-	-	-	-	-	-
15	19PH5207	Digital Electronics Lab	Professional core	-	-	-	-	-	-

Dr. C. J. Srinivas Sankar
 Head of the Department
 Department of Physics
 Koneru Lakshmaiah Education Foundation
 (Deemed to be University)
 Address: V.V. Road, Nellore
 Andhra Pradesh - 524 302
 Dist. Nellore, Andhra Pradesh

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DEPARTMENT OF PHYSICS

MINUTES OF DEPARTMENT ACADEMIC COMMITTEE (DAC)

The Department Academic Committee (DAC) Meeting was conducted at 11:00 A.M. on 25/09/2020 (Friday) in the virtual mode due to the prevailing pandemic (COVID-19), with HoD in the chair and the concerned Committee members:

Cisco WebEx virtual mode:


<https://kluniversity.webex.com/kluniversity/j.php?MTID=mf9e5f62766bd854898367cfla790586b>

Agenda of the Meeting:

1. To include Design Thinking and Innovation (DTI) – 1 & 2 courses in to the M.Sc (Physics) Curriculum for the Y19 and Y20 admitted batch students.
2. To discuss and recommend the revisions proposed, if any, in the curriculum of Y20 admitted batch students for the A.Y. 2020-21 odd semester.
3. To discuss the feedback received from all stake holders
4. Any other points with the permission of chair.

The following Faculty Members were present:

1. Dr. G. Sunita Sundari, Associate Professor, Group Head- CNT, & Head of the Dept.
2. Dr. N.S.M.P. Latha Devi, Associate Professor
3. Dr. K. Swapna, Associate Professor
4. Dr. Mahamuda Shaik, Associate Professor
5. Dr. K. Raghavendra Kumar, Associate Professor & PG Coordinator
6. Dr. M.V.V.K. Srinivas Prasad, Assistant Professor & Associate Dean (Academics)
7. Dr. M. Venkateswarlu, Assistant Professor & Prof. In-Charge
8. Dr. A. Venkateswara Rao, Assistant Professor, RPAC Chairman
9. Dr. Shaik Babu, Assistant Professor & Deputy HoD
10. Dr. A. Sendil Kumar, Assistant Professor & Counselling In-Charge
11. Dr. S. Shanmugan, Assistant Professor
12. Mr. M. Gnana Kiran, Assistant Professor & Associate Dean (P & D)


Dr. G. Sunita Sundari
Head of the Department
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Koneru Lakshmaiah Education Foundation
(Deemed to be University)
Green Fields, Vaddeswaram-522 302,
Guntur Dist., A.P., India.

The following points were discussed, deliberated:

AGENDA and RESOLUTIONS

Agenda Item 1:

To include Design Thinking and Innovation (DTI) – 1 & 2 courses in to the M.Sc (Physics) Curriculum for the Y19 admitted batch students.

Resolution:

As per the guidelines received from the Faculty, also for enhancing the career prospects of the students, the DAC members discussed about to include Design Thinking and Innovation (DTI) – 1 & 2 courses in semester 3 and semester 4, respectively in to the Y19 and Y20 M.Sc (Physics) Curriculum and the same will implemented in regular courses for the next admitted batch students too. The same is accepted and recommended by the BOS chairman and other committee members with the following proposed structure.

Design Thinking and Innovation - 1 (DTI-1) course with 2 Credits with L-T-P-S _ 1-0-0-4

Design Thinking and Innovation - 2 (DTI-2) course with 2 credits with L-T-P-S _ 1-0-0-4

Agenda Item 2:

To discuss and recommend the revisions proposed, if any, in the curriculum of Y20 admitted batch students for the A.Y. 2020-21 odd semester.

Resolution:

Considering the suggestions and recommendations given by the internal committee members and course coordinators (CCs), we are not going to change/modify or delete the content from any course for the Y19 MSc Physics curriculum (3rd and 4th Semesters) and as well as for the Y20 admitted batch students. The existing total number of credits is 94. The modified Y19 MSc (Physics) curriculum added with DTI 1 & 2 courses, and hence, the total number of credits will be 98. All the committee members attended in the DAC meeting approved the modified curriculum and total number of credits, and hence, the same is recommended to the BOS Chair for approval.

Follow-up actions on the Minutes of the previous BOS meeting(s)

Previous minutes of BOS Meeting:

Sunda
28/9/2020
Dr. G. SUNITA SUNDA:
Head of the Department
Chairman DAC-Physics
Koneru Lakshmaiah Education Foundation
(Deemed to be University)
Green Fields, Vaddeswaram-522 002
Guntur Dist., A.P., India