

UNIVERSITY OF CALICUT
Academic & Administrative Audit of Teaching Departments
(2016 -2021)
Report

Name of the Department		Department of PHYSICS		
S. No.	Item	Grade A - Excellent, B - Good C - Average D - Poor	Comments	Suggestions for improvement
I	Programmes Offered			
1	Relevance, adequacy, innovativeness etc. (3-8)	B	The programmes offered at the level of PG, M.Phil., Ph.D., is OK.	An integrated PG programme with an exit option for an UG degree may be considered. Since, a PG programme in Radiation Physics is offered, it would be beneficial to the students, if any Certificate, Diploma Programmes (Nuclear Medicine, Radiation Instrumentation..) is offered which will create job avenues
2	Demand ratio of courses (33,35,36)	A	For a strength of 22 seats, receiving consistently around 1000 applications every year indicates a success of the PG program (Physics) offered.	No data for 2017-18, 2020-21 (PG Physics) Not sufficient input for PG Radiation Physics, nevertheless large number of applications indicates a higher demand.

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				Since there is a higher demand the student strength may be increased to at least 30 so as to give opportunity to more students.
3	Syllabus & curriculum (10,11, 46)	B	Periodically revised once in three years. Every faculty member participates in the curriculum updation.	It would be better if, exposure is given in emerging thrust areas, including interdisciplinary areas. As one move towards Industry 4.0 and 5.0 revolution, it would be important to take efforts to offer courses in thrust areas. The concept of OBE be implemented if not introduced.
4	Examination & Results (9, 34, 37)		CBCS is followed.	Data not provided for 2016-2017, Exam not conducted for 2018-19, (??), Course not completed 2019-20, No status for 2020-21. Since there is no data grading is not given.
II Faculty				
1	Strength (12, 14, 15)	B	The present strength of 7 faculty members is not sufficient to handle two PG, M.Phil. and Ph. D. programmes	The vacant positions must be filled
2	Student teacher ratio (16)	B	The average ratio of 5 :1 for PG and 1 : 1 for M. Phil. Is good.	With increase in staff and student strength, 2 : 1 ratio can be aimed at.
3	Qualification, experience diversity, performance etc. (13, 41, 48)	A	Every faculty member is a doctorate holder with good experience in teaching and research. Performance obtained through feedback mechanism indicates 80% with a grade	An online feedback submission mechanism be followed

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			of Very Good and 20% with a grade of Good.	
4	Participation of faculty in Professional Development programmes, Seminars, Workshops etc. (26-27)	B	Yes. Most of the faculty members are regularly participating in the events of importance at National and International level.	Clarity may be needed whether the students are participating or the faculty members? If the student is participating that cannot be considered as a participation of the faculty member. Necessary attendance certificate of the faculty members may be attached as a supporting document while collecting the data.
5	Recognitions received by faculty from notable institutions (state, national or international) (28-30)	C	The recognitions are given at University level which are trivial by virtue, like BOS Chairman, Member BOS etc., Member IQAC, University Nominee. These cannot be considered a Recognitions.	The faculty members are expected to represent academies at National level, Representing National level committees, Representing policy making and/or decision making bodies at National / State level.
III	Research			
1	Thrust area (18)	B	Three thrust Areas is identified by the Department.	While recruiting new faculty members diverse research fields / teaching expertise in core physics may be considered.
2	Facilities (21, 22)	C	There are only four facilities listed. If these facilities are created / established during the period of 2016-2020, it is OK.	The department may apply for National projects to create and establish more facilities. Steps may be initiated to establish special research laboratories which caters the needs of industries with mutual support.

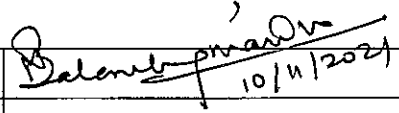
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			Otherwise, it is surprise to see only four facilities in an established department like this.	
3	Publications (23)	A	150 publications for a period of five years. But many of them are in Conference Proceedings.	The faculty members may publish papers in high impact factored journals like Nature, etc.,
4	Patents (24)	D	Nil Patent.	In coordination with IPR cell of the University, the faculty members may apply for patent and convert research into product level outcomes beneficial to the society.
5	Consultancy (25)	D	Nil Consultancy.	Steps must be initiated to explore the possibility of providing consultancy to the industries as an outcome of the ongoing research works.
6	Projects (19)	B	Half of the faculty members are operating research projects. (Mentor projects cannot be considered as a project of the faculty members).	All the faculty members may have / or operate at least one project in a given point of time. Multi-disciplinary projects schemes may be tried in association with relevant departments.
7	External Funding (all funds secured by faculty other than normal grants received by the University) (20)	C	In the reported period not much funding is received except UGC SAP.	The data given is also not checked for its correctness.
IV	Students			
1	Student achievements (state, national, international) (31)	C	Only one award	Students should be motivated to participate in various events, competitions at regional, national and international level.

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2	Diversity (male female ratio, from within the state, outside the state and international) (33, 38)	C	There is an alarming decline of male students taking up this programme. Surprised to note that no students from the same University prefers to join for PG, M.Phil, and Ph.D. programmes.	Efforts must be taken to admit students from the same university.
3	Student Progression (39, 40, 49)	B	One to two students are clearing NET/SET or GATE exams. The alumni are occupying good positions at institute of importance.	Special weekend classes may be arranged to train the students for appearing in competitive exams with a focus to increase the number of students clearing these exams.
4	Financial support to Students (45)	A	More than 75% of the students are supported with financial aid.	Students be encouraged to apply for National level scholarships / fellowships
V	Support Staff (Strength, Adequacy etc.)			
VI	Teaching- learning & Evaluation (47)	A	All the teaching faculty members are effectively using conventional and modern tools for effective teaching.	Feedback, Head, DC meeting minutes, Data in connection with remedial courses must be properly maintained for verification
VII	Feedback Mechanism (48)	A	A good mechanism prevails.	The feedback data and remedial measures, action taken must be properly documented. As mentioned before, an online feedback system must be adopted.
VIII	Activities of the Department (conduct of seminar, workshops, student enrichment programmes, extension activities and other beyond scholarly activities) (32, 50, 55)	A	Programs of importance are organized giving required exposure to the students.	

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IX	Infrastructural facilities of the Department (52)	B	Two facilities are highlighted.	Many more facilities be created being a potential department
X	Uniqueness of the Department & Innovative practices (53-55)	A	Science popularization, Observatory visits are unique.	
XI	SWOC (56)			
1	Strength	A	Good track record as evidence from the details of Alumni.	
2	Weakness	B	Shortage of faculty members	Steps be initiate to fill up the vacant positions.
3	Opportunity	B	Inter-disciplinary, application oriented programmes are identified as possible opportunities.	Steps must be taken to make it realise.
4	Challenges	B	The challenges identified are not OK. International students can join through Study in India programme.	Being a potential teaching and research department attracting international students is not an issue.
XII	Future plans (57)	B	Identified future plans are OK.	
Overall remarks of the Auditor:				
The Department of Physics, Calicut University is a potential department in terms of academic and research activity. Shortage of faculty members being the stagnate point that hinders the expansion of their expertise towards reaching better milestones. The Department may give attention of interdisciplinary projects in collaboration with other departments, industries etc., The success of the Department is evident from the Alumni.				
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