



St. Joseph's College (Autonomous)

College with Potential for Excellence

NAAC accredited at A grade in the third cycle

Irinjalakuda-680 121, Thrissur (Dt.), Kerala

Telephone: 0480 - 2825358, M.No. 8301000125

Email: info@stjosephs.edu.in

Website: www.stjosephs.edu.in

Department of Physics

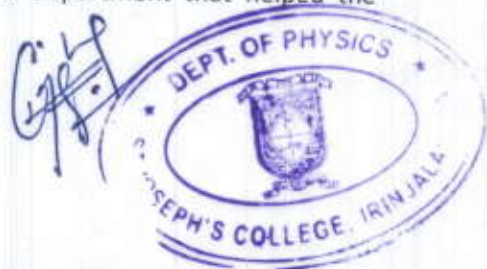
Curriculum feedback analysis and action taken report 2016-17

Feedback

- The faculty suggested expanding the horizons of the curriculum by the department through the introduction of courses in Post Graduate program. This could help the students attain the requisite skills for pursuing the career of their desired choice.
- There was a common suggestion by the students to include Chemistry as one of the complementary subjects in order to promote interdisciplinary studies as chemistry is one of the most intervened subject inevitable in the domain of physics
- The faculty advocated for the necessary revisions in the course programs as these revisions ensure ameliorating of the syllabus with the topics that aid the students to flow with the tide of changes in the field of education.
- The alumnae suggested in incorporating ICT tools for teaching-learning sessions to ease the process of education and for leading a technologically advanced generation of students, the teachers must maximize the utilization of the tools required for the implementations smart learning.
- Students suggested in the collection of previous year question papers and filing them for reference. This can be a helpful resource for the student to analyze the question paper pattern and focus on the repetition of questions thereby helping them to frame their answer paper in an improved manner.

Actions taken

- M. Sc Physics with specialization in Electronics was introduced.
- Request for change in complementary subject is forwarded towards the academic council for approval.
- The BOS accepted the university syllabus and collected suggestion for the revisions to be implemented in the next year by forming a committee to evaluate the same.
- The faculty made proper use of Power-point, Smartboards and OHP projectors along with the Chalk and Board technique for teaching students during the classes.
- Previous year question papers were collected and filed in the department that helped the students for future reference.





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Curriculum feedback analysis and action taken report 2017-18

Feedback

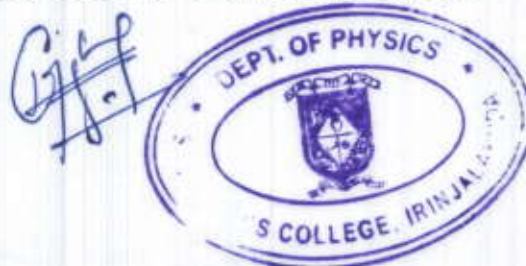
- The teachers suggested that the students be encouraged and made to present a power-point presentation for the seminars in each semester. Creating PPT and presenting them adds them with benefits of increased creative abilities and strengthens their confidence level along with acquaintance of the subject matter to be learned.
- The teachers suggested conducting the regular revisions of the course. Unnecessary topics were discussed and its substitution with topics of relevance in the syllabus was considered.
- The PG students requested for the provision of guidance from other institutions for their projects. This kind of interactions ensures that the students are able to grasp the contents through a broader perspective and are being capable to creatively apply the theoretical knowledge into practical means.
- The need for organizing workshops and other events of prominence to support and enhance entrepreneur skills and the knowledge base of the content in students was a major suggestion given by the alumnae.

Actions taken

- Each student is instructed to do at least one power-point presentation for seminars, other than Project presentation
- Following the university regulations, the Board members approved the revisions prescribed by the University of Calicut and revisions were done accordingly:
 - Core courses
 1. PHY1C04 Electronics
 2. PHY2C05 Quantum Mechanics –I
 3. PHY3E07 Experimental techniques
 4. PHY3C10 Nuclear and Particle Physics
 5. PHY4E13 Laser Systems, Optical Fibres and Applications
 6. PHY2C08 Computational physics
- PG Students were given the choice to do their projects either at the parent institution or at another institution.

The following events were organized by the department based on the suggestions given by the alumnae:

- A workshop on 'Manufacturing of LED serial light bulbs' was organized and students actively participated in it.
- Quiz on energy conservation





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Curriculum feedback analysis and action taken report 2018-19

Feedback

- The parents suggested the revision of the pattern for test papers conducted for Core and Complementary courses as adopting the recent version of question paper acquaints the students with the recent changes developed in the educational scenario and helps them in preparing and performing better in the competitive examination
- The students suggested in cutting down portions or irrelevance and exhausted educational value as it adds to the burden of loss of time and energy preparing for those contents for the purpose of examinations.
- The teachers advocated to substitute the existing reference books and other resource books taught in the classes with the updated versions of the same topic for the students to grasp the content that are more relevant with the present scenario and applicable for further advancements.

Actions taken

- The pattern for test papers conducted for Core and Complementary courses was slightly modified, without any change in the pattern of End Semester examination. (information has to be provided by the teachers)
- As per the suggestions from the students, the BOS gathered information from the subject experts on the relevance of existing syllabus and the possible contents and books that can be omitted for accurate dispensing of knowledge based on the modern requirements.

Removed:

1. In the second semester Physics Core paper PH2 B02: Properties of Matter, Waves & Acoustics, topics stated as 'Ultrasonics : Production of Ultrasonic Waves – by Piezo Electric Crystal Method, Determination of Velocity of Ultrasonic Waves in a Liquid - Acoustic Grating , Application of Ultrasonic Waves' were removed and topics stated as 'Doppler effect in sound; Introduction to Ultrasonic waves and its applications' were introduced.
2. In the Third semester Physics Core paper PH3 B03: Mechanics, topics stated as 'principle of covariance' were removed.
3. In the Fifth semester Physics Core paper PH5 B08: Physical Optics and Modern Optics, topics stated as 'Determination of wavelength' were removed and topics stated as –



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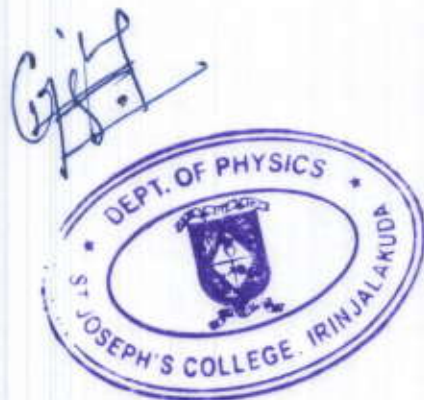
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'white light fringes' were introduced. Reference book titled 'Nonlinear Optics- B.B.Laud' was removed.

4. In the Fifth semester Physics Core paper PH5 B09: Electronics (Analog & Digital), topics stated as 'P-n junction diode-rectifier, Multivibrator' were added and topics stated as 'tuned collector oscillator, crystal oscillators' were removed
 5. In the First semester Physics Complementary paper PH1C01: Properties of matter & Thermodynamics, the topic stated as 'Cantilever loaded at the middle' was removed.
- The following modifications were brought in the course materials as per the suggestions given by the teachers:

Reference books introduced:

1. In the First semester Physics Core paper PH1 B01: Methodology of Science and Physics, a reference book titled 'Play with graphs-Amit Agarwal-Arihint Publications was added.
2. In the Fourth semester Physics Core paper PH4B04 Electrodynamics – I, reference books titled - Electrodynamics made simple - Dr.E D Dias & Santhosh P Jose, Foundations of electromagnetic theory - Reitz, Milford & Christy, 4th edn, Electricity and magnetism - Vol II - Berkeley Physics Course, were introduced
3. In the Fifth semester Physics Open Course paper PH5 D01(1): Non Conventional Energy Sources, reference book titled 'Non – Conventional Energy Resources and utilization, S.Chand Publications -R K Rajput' was introduced
4. In the Sixth semester Physics Core paper PH6 B10: Thermal and Statistical Physics, a reference book titled 'Heat, Thermodynamics & Statistical Physics-Brijlal, Subramaniam & Hemne' was introduced.
5. In the Sixth semester Physics Core paper PH6 B12: Nuclear Physics, Particle Physics & Astrophysics, reference book titled 'Modern Physics - R.Murughesa, Modern Physics – Kenneth Krane, Introduction to Nuclear Physics - Harald A Enge' were introduced.





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Curriculum feedback analysis and action taken report 2019-20

Feedback

- Though the teachers suggested their satisfaction in the syllabus followed this year, they suggested that the syllabus incorporate recent changes and modifications for the students to get an overall idea on a different topic of relevance in their field of interest
- The faculty members suggested changing the text books for study related to respective courses. The teachers recommended that there are many books with high educational and instructional value that can aid the students with the syllabus by adding it to the list of reference books for a particular paper.
- The employers requested student initiatives to be promoted as part of the curriculum that can help them to boost their entrepreneurial skills making them more focused and responsible in their endeavors. They also insisted in equipping the students with technological tools that can play a part in the technological advancements of the students.
- The parents suggested that the students should be given more value related task in the campus in accordance with the curriculum that could help in advancing the students with social commitment and responsibility towards work
- The alumnae suggested that the students should be provided with an efficient question bank that can support the student to cover the portions for the exam preparation in an effective way. They also suggested to re consider the question paper pattern and the grading system to cut down on the unhealthy competition and confidence in answering the question paper.
- The students suggested in using latest coding languages for programing to be introduced in their course of study to enhance their opportunities in the employability sector

Actions taken

- Major revisions were discussed in the BOS meeting and a rough draft was finalized based on the syllabus revisions required for the next academic year. For the upcoming semester, the board approved university declared syllabus by adhering to all the new courses introduced for both UG and PG programs and the revisions set by the university were also decided to be followed.
- Reference books for the following papers were reshaped based on the faculty suggestion:
 - PG First semester core course SJPHY1CO3 Electrodynamics and plasma physics. Module 1 revised
 - PG fourth semester core course SJPHY4E20 Microprocessor, Microcontrollers and applications. Module 3, 4, 5 revised



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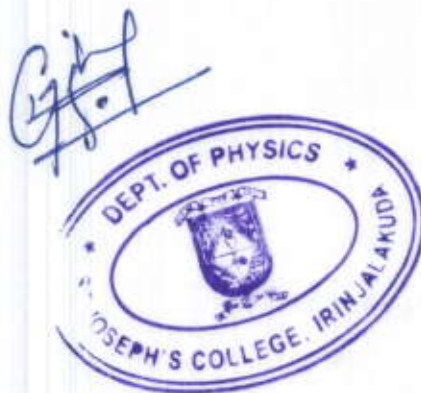
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- In the PG second semester core course SJPHY2C05 Quantum Mechanics –I, text books for study are revised.
- In the PG third semester core course SJPHY3C09 Quantum Mechanics –II, text books for study are revised.

- It was decided in the board meeting to encourage student startups after consulting with the university incubation centers. The use of tablets for running audit courses was suggested to the academic council
- As per CUSSP, campus cleaning, energy awareness programs and classroom cleaning were decided to be conducted in the campus which are supposedly a fair means to instill social hygiene values in the students and make them committed to the community and its welfare.
- New comprehensive question bank will be prepared by the faculty under the supervision of the BOS. New question paper pattern and grading system will be implemented from the next semester onwards
- As per student request, in the paper Computational physics, python version 3.0 will be used that will enable the learners to get an awareness on the programming basics of python and its applications in computational physics.





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Curriculum feedback analysis and action taken report 2020-21

Feedback

- The students insisted on the revision of the core course of their syllabus to include the latest topics that inevitably needs to be incorporated into the syllabus in order to acknowledge the advancements in the field thereby helping the students to gain an upper hand in their field
- The students demanded an elective course to be included as part of the curriculum for better flexibility of choices in the stream of knowledge. This widens their perspective and backs them for choosing different course of work in the future endeavors that has great potential for employability.
- The employers suggested that the practicality of the course should be focused more through experiments and practical that can give the student a better outlook about the basic physical rules in their field of work. It was also suggested that the students have the option for either project or research methodology course.
- The employers advocated for armoring the students with audit courses offered by external agencies. They suggested that the faculty can guide the student to opt from genuine agencies that offer credible courses with valued certificated worldwide.
- The students demanded more number of reference books that were available online for the purpose of study at home due to restrictions on availing college library facilities and the resources in the college
- The postgraduate students demanded a good revision of the topics in syllabus so that they do not miss out on the novel inventions and its techniques in the field of physics. The highly demanded paper of revision was atomic and molecular spectroscopy.

Actions taken

- The following two introductions were included in the core course papers:
 - In semester 1, Core course SJPHY1B01 – Mechanics I is revised by removing Unit 1 – Methodology of Science and Unit 5 – Properties of Matter
 - In semester 2, Core course SJPHY2B02 – Mechanics II is revised by updating new text book for study 'Progressive Waves of Vibrations and Waves' by A. P. French
- The Board decided to finalize the Elective course for UG 6th semester as Nanoscience and technology. Nanoscience and technology is an excellent choice of course for supporting the main stream of physics as it gives an insight on how nano-materials available in the world can be exploited in the best possible way for the betterment of mankind.



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- The following areas of theory and practical underwent revisions in order to focus on the practical aspect of the course:
 1. SJPHY4B05 Practical I
 2. SJPHY4C12 Atomic & Molecular Spectroscopy
 3. SJPHY1LO2 Electronics Practical - I
 4. SJPHY2LO4 Electronics Practical - II
 5. All the 3rd year BSc students will do projects in the final semester, instead of the Research Methodology course.
- Along with opting for audit courses, the board of members recommended considering the quality of the course before taking it up. It was insisted that while doing UG audit course in SWAYAM portal, students should make sure that it is of minimum 4 credits.
- New reference books were added for UG complementary courses after thorough examination by the faculty on the available e-books in the internet and other educational platforms.

