

# **CRITERION I - CURRICULAR ASPECTS**

## **Report of stakeholder's Feedback on Curriculum Academic Session 2022-23**

The feedback on the curriculum is collected every year from the stakeholders, evaluated by the Feedback committee and necessary updates are carried in the curriculum design and syllabus for the betterment of the student community. After the completion of the academic session 2022-23, separate feedback was collected from all stakeholders i.e. Students, Teachers, Alumni, and Employers regarding the curriculum.

### **Mode of Collection:**

The feedback received by Teachers, Alumni, academic peers and students is an important parameter for quality improvement of the curriculum of the institution. The Institute collects feedback on curriculum from the stakeholders, community members and also from the national and international experts, the academic peers who visit the Institute as external examiners or for some other purpose like meetings etc, discusses various aspects of the curriculum & gives their valuable suggestions. The feedback forms are then analyzed by the Statistics Department of the Institute.

In the academic session 2022-23 also, the online feedback about UG and PG curriculum was collected from academic peers, alumni, and students through Google Forms. It was observed that 95% of them were satisfied with 90% of the curriculum. However, they also made valuable suggestions for updating the syllabus to meet the current challenges and to make it more application as well as job oriented. They opined that the syllabus for all the subjects should be designed in such a way that it would help the students to clear NET /SET and the other subject-oriented competitive examinations.

The students from rural background suggested the inclusion of soft skill programs in the curriculum to improve their communication skills along with Group discussion and Personal interview sessions.

**Some subject-specific suggestions are discussed below.**

Statistics students have emphasized the need to include various statistical software such as SPSS, SAS etc in the syllabus. Though these packages are not included in the syllabus, every year the department conducts workshops on various Statistical Packages such as R, SPSS etc for the benefit of the students.

Department of Statistics runs a **Certificate course in R** for PG students and PG practicals are performed on This helps them to have basic knowledge about R and they can further explore it on their own .It also helps them a lot in entering into the job market after completing the PG program.

Study tours are also conducted where students learn the application of their subjects in different fields.

Zoology students have strongly recommended the need for special training programs in areas like apiculture, sericulture, pest control, biotechnology, wildlife conservation, biodiversity techniques required in the medical field etc to stand in the global market. Various new specializations have been suggested to include in the curriculum to meet global requirements and job competencies.

It is well known that projects and seminars are included in PG courses for all subjects except Mathematics. Academic peers have suggested that projects and seminars as well as programming software should be in the PG course of Mathematics.

Chemistry experts have suggested using the Green chemistry approach while designing the UG and PG experiments to make them environment friendly. Physics experts have suggested the introduction

of Astronomy and Astrophysics course in depth as it is an emerging field in science now a days.

The Institute has become Autonomous in June 2021, and with NEP to be implemented shortly, it will be possible to make the above mentioned changes in the curriculum as per the current demand of different subjects.

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## ALUMNI FEEDBACK REPORT

Alumni are the best stakeholder for providing feedback regarding curriculum as they experience both the sides, i.e. theoretical knowledge and practical applicability. On one hand, they have completed their curriculum, hence, are closely familiar with all its aspects and can give honest opinion without any hesitation and on the other hand, they also experience its significance in the real world after completing the course.

Keeping this point in mind, a separate questionnaire was used to collect feedback from alumni regarding curriculum.

The suggestions by ALUMNI ,TEACHERS and STUDENTS were almost the same .  
Some **general suggestions** applicable to all subjects are as follows

- 1 Almost all of them suggested the need to update the syllabus of all subjects according to industry demands,trending situations in past years .
- 2 Need to design the syllabus taking into consideration the competitive exams in the respective subjects.
- 3 Inclusion of Internship program for PG course as a part of curriculum , to get experience in the relevant field.
- 4 Suggestion to introduce add on courses to improve communication skill and presentation skills
- 5 **To follow** Standards and patterns of top universities like IISc and DU
- 6 To introduce Personality development and yoga training programs as add on courses which will help to reduce stress

Suggestions related to some subjects are given below.

### **Statistics**

- 1 The statistics alumni were of the opinion that Indian Statistical service ( I S S ),UPSC syllabus is more vast and quite different from our syllabus therefore student selection ratio in these services is low.
- 2 They also appreciated the fact that Practicals are taken on R software but PYTHON should be added along with it.
- 3 Programming skills must be focussed on.
- 4 Introduction of Data science course in the list of programs offered
- 5 More focus should be given on connecting Statistics with real life by taking real life examples.

### **Zoology**

- 1 It was suggested that the course should be more industry and research oriented. More applied aspects and techniques should be included.
- 2 Depth of the curriculum was mentioned as comprehensive and satisfactory.
- 3 Streams like bioinformatics, biochemistry, genetics, molecular biology, immunology should be more practical oriented.
- 4 More applied aspects and techniques should be included.
- 5 Emphasis should be given on topics related to applied Zoology like, fisheries, apiculture, sericulture, pearl culture, vermicompost, forestry, haematology etc.

### **Employer Feedback Analysis and Report**

The Institute makes sure that the learning imparted here serves the industries' growth. A large number of students pass out every year. Some of them pursue higher studies for their academic endeavours, rest of the students prefer to work. A questionnaire is shared with these employers seeking their observations about their employees (who are alumni of our Institute ).

In 2021-22 , Institute of Science has taken feedback from different stakeholders on curriculum of all the Masters Programme offered by the Institute .Under the guidance of Internal Quality Assurance Cell, all Departments in the Institute has collected feedback through google form from employers who have hired our students and has analysed the data received from the employers and submitted a consolidated report of it to IQAC.

The Employers were offered to describe their perception driven from their employee's performance on a five point scale ranging between Excellent, Very Good, Good, Average and Poor.

The feedback on the current curriculum by the employers (Industry Experts) and their views as per the current scenario. Add-on and Value added courses are designed based on this feedback. Placement cell also takes cognizance of this feedback while organising training sessions.

For example, R programming skills are listed as a job requirement on thousands of jobs in the fields of statistics and data analysis as it is highly flexible and evolving. R's commercial applications increase by the minute, and companies appreciate its versatility.

**A Certificate course in R** was introduced in the Institute by the Department of Statistics in 2013 and also UG and PG practicals are now conducted using R so that students get hands-on experience in R. This helps them to gain confidence at the time of facing the interview.

**A National level workshop on Applied Statistics for Industry** was organised by Statistics Department in association with **Cytel, Pune** on 8 & 9 February 2020 to know the expectations of Industry from Statistics students .Dr A P Gore , Experienced statistical consultant with a demonstrated history of working in industry , Currently Working as Consultant in CYTEL Pune ,Applied Statistician and retired Professor ,University of Pune guided the students on this occasion

Feedback collected from all stakeholders is analysed and suggestions received from them are conveyed to the IQAC and Director for further action and improvement.

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## **20-21 Report of feedback on curriculum from Academic peers, Students and Alumni**

It is well known that the University designs curriculum and the contribution of any Institute in the design of curriculum is through its teachers who are members of the Board of Studies (BoS). Normally, the syllabus is revised every three years by the University but in the year 2012-13, Rashtrasant Tukadoji Maharaj Nagpur University (RTMNU) introduced credit based system and semester pattern in Science Stream for Under Graduate and Post graduate courses. Our faculties who were the members of BoS at that time, were instrumental in curriculum restructuring.

The academic peers who visit the Institute as an external examiner or for some other purpose, discuss various aspects of curriculum and give their suggestions. The Institute collects feedback on curriculum from students, academic peers, employers, alumni, community members and also from national and international experts who visit our Institute from time to time. The feedback forms are then analyzed by the Statistics Department of the Institute. The suggestions in the feedback are communicated to the University in the BoS meetings through the faculties who are chairpersons /members of BoS.

In the period 2020-21 also, the online feedback about UG and PG curriculum was collected from academic peers, alumni and students through google forms. It was observed that 95 % of them are satisfied with 90% of the curriculum.

However they also made valuable suggestions for updating the syllabus to meet the current challenges and to make it more application as well as job oriented. They opined that the syllabus should be designed in such a way that it would help the students to clear NET /SET and the other subject oriented competitive examinations. The need of uniformity of syllabus across different states has also been suggested.

The students from rural background wanted soft skill programs to be included in the curriculum to improve their communication skills along with Group discussion and Personal interview sessions.

### **Some subject specific suggestions are discussed below.**

Statistics students have emphasized on the need to include various statistical software such as SPSS, SAS etc in the syllabus. Though these packages are not included in the syllabus, every year the department conducts workshops on various Statistical Packages such as R, SPSS etc for the benefit of the students. Study tours are also conducted where students learn the application of their subjects in different fields. Department of Statistics runs **Certificate course in R** for PG students and PG practicals are performed on R. This helps them a lot in entering into the job market after completing PG program.

Zoology students have strongly recommended the need of special training programs in areas like apiculture, sericulture, pest control, biotechnology, wildlife conservation, biodiversity techniques required in the medical field etc to stand in the global market. Various new specializations have been suggested to include in the curriculum to meet global requirements and job competencies.

As per the suggestions by academic peers for the curriculum update ,some changes have been made .At PG level ,two new papers, one paper on Wild Life and Avian Biology and another on Radiation and Chronobiology and some new topics such as Nanotechnology and Stem cell research have already been introduced.

Also at UG level topics like immunology, Molecular biology, Some applied techniques ,Biostatistics , Bioinformatics etc have already been introduced to make students familiar with the globally important topics.

One valuable suggestion is that the variation due to the local environment and geographical location should be taken into consideration while framing the syllabus.

It is well known that projects and seminars are included in PG course for all subjects except Mathematics . Academic peers have suggested that projects and seminars as well as programming software should be in their PG course.

Chemistry experts have suggested using Green chemistry approach while designing the UG and PG experiments to make them environment friendly.

These observations were communicated to the BOS members for possible inclusion and implementation in the syllabi in the near future.

The Institute has got Autonomy in June 2021 ,therefore now it will be possible to make desired changes in the curriculum as per the current demand of different subjects.

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