



CHRIST

(DEEMED TO BE UNIVERSITY)

PUNE LAVASA CAMPUS
The Hub of Analytics

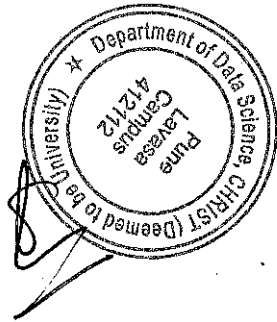
Department of Data Science

**FEEDBACK ANALYSIS AND ACTION TAKEN REPORT
2020-2021**

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1. INTRODUCTION

The importance of feedback in the learning process cannot be overstated. Department of Data Science, Christ (Deemed to be) University, Pune Lavasa Campus collects feedback from a variety of stakeholders, including students, faculty, alumni and industry experts, for the purpose of Improving curriculum and courses. During the academic year 2020-2021, feedback was collected from the stakeholders through online communication. The feedback was collected from them using Google Forms. As each feedback contains all important factors to consider, the data gathered from them has been examined and factored into the development of curriculum, instruction, the learning process, and the environment.

2. MAJOR SUGGESTIONS BY STAKEHOLDERS

a. **Students**

- Overall, the syllabus is good and sufficient.

Suggestions:

- Data communication and networking, for example, appear to be more theoretical in nature and more related to software engineering.
- It could be more engaging if we could devote more hours to more hands-on data analytics related themes or projects in place of those. More emphasis on R and Python lab might be given.

b. **Alumni**

- As the departments' first outgoing batch is in 2022, we do not have alumni in the year 2020-2021.

c. **Teachers**

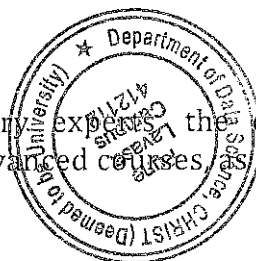
- The syllabus is good, and subject teachers are encouraged to provide feedback on the subject after each semester of instruction. The syllabus is thoroughly examined.
- The curriculum is of high quality and allows students to build logical thinking skills. The curriculum is designed to meet the needs of students as well as the present industry.
- The syllabus has been modified and expanded.

Suggestions.

- More case study-based training modules are needed.
- Some modifications should be done, such as restricting theory and emphasizing case study-based learning and hands-on experience in the subject, encouraging students to actively participate in their own learning, and teachers serving as guides and mentors to show them the way.

d. **Industry**

- According to industry experts the overall syllabus offers a mix of fundamentals and advanced courses, as well as practical experience.



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- In the industry, there is a high demand for data engineers and data scientists, and the courses will help to fill that gap.

Suggestions.

- More real-time project-based learning will benefit both industry and students.
- As a result, the curriculum will be modified by including more project-based courses.
- The Python curriculum can be expanded.
- Lab sessions may be included in a machine learning course.
- The elective basket can be rethought to provide additional good options in accordance with industry standards.

e. Parents

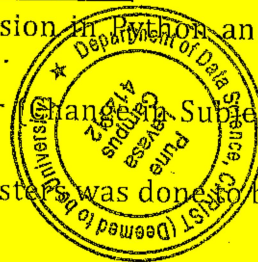
- Majority of the parents agreed to the point that the curriculum is structured and well-designed based on the industry requirement. Few suggestions stated below were also given by some parents.

Suggestions

- For using Excel as a primary skill development tool, from beginner to intermediate levels, including VBA programming and macros. The course can be taken over the course of six semesters.
- Include a real-world usability case study from the industry for each subject/topic covered throughout the course. This will not only increase the students' interest and motivation, but it will also better prepare them to enter the sector.
- Preference should be given to subjects that are practical in nature.
- The curriculum can be more focused on employability and prepare students to think clearly, competently, and compassionately.
- If BSc Economics is chosen as a stream, greater emphasis on economics can be given

3. ACTIONS TAKEN

- Programming in Python - Content revision in Python and Advanced Python for Data Science (BDS 171,BDS 271)
- Applied Excel moved to lower semester (Change in Subject Code BDS412 <-> BDS 111)
- Shuffling of the subjects across the semester was done to balance the workload of the students.



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4. APPENDIX

a. *MOM regarding feedback collection and discussion on the feedback*



Department of Data Science Minutes of the Twenty-Fifth Meeting

Ref: CU/SC/DS/DM/2020-21/25 Date 04/05/2021 Time: 4:10 – 5:15 PM

Venue: Online, Zoom Platform

All members as per the attendance list were present.

The 25th Department Meeting began with a silent prayer. Dr Samiksha Shukla, Head of the Department, greeted everyone and called the meeting to order.

Points discussed during the meeting

- **To discuss the Remedial Classes.**

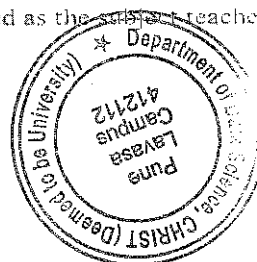
Dr. Samiksha asked the faculty members to send the course plan for the remedial classes by 4 May 2021 to the respective coordinators, HoD and Academic Office. She informed that the schedule for the classes must be made and must be conducted outside of regular classes. She requested the teachers to follow the proper template for the plan. The coordinators were asked to look into the same especially for the subjects with practical labs where MSE were not conducted. A copy of the plan must be mailed to the Teaching, Learning and Evaluation Criterion head for SSR documentation.

- **To discuss Practical Subjects Marks.**

Dr. Samiksha Shukla asked the teachers going for subjects with the lab to consolidate their marks for the lab till the previous week. She shared the template to be followed while consolidating the marks. The consolidated marks to be sent in by 5 May 2021. The co-teachers must maintain the marks but the lab incharges must consolidate the marks. She requested Prof. Vasantakumar Megalamani and Prof. KT Thomas to consolidate the marks for Machine Learning Lab. The CIA based marks must be shared in the Google Sheet shared by the coordinators. The practical marks must be shared with the HoD and coordinators to discuss and review.

- **To discuss the Evaluation Pattern.**

Dr. Samiksha shared the evaluation patterns for all the courses shared by the exam office. She asked the teachers to make note of the evaluation pattern out of which they must enter the marks. The evaluation pattern for BSc (2020 Batch) follow 70 - 30 Pattern and the BSc (2019 Batch) follow 60 - 40. The MSc (2020) follows a 50 - 50 pattern. MA BE (2019 Batch) follow 60 - 40 Pattern. She explained each of the patterns in detail as to how many marks is allotted for each CIA, the End-Semester examination Marks and the marks out of which they must be entered. She asked the teachers to ensure the deadline for the marks as mentioned in the pattern. The CIA Based subjects components can be conducted as the subject teacher's requirements but must maintain the minimal components.



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- To discuss the English Language Training Course.

Ms. Elsheba D briefed about the English Language Training Course for the MSc students. She informed that the course commenced on 27 April 2021 with the introductory session and classes have begun. Dr. Samiksha asked if a certificate can be issued for the students taking the course. Dr. Fr. Jossy P George suggested that the certificate can be given based on the attendance. Dr. Samiksha added that the course can be considered as a value added course.

- To discuss IV MScDS examination.

Dr. Samiksha informed that the final semester's results have been submitted to the exam office and the results will be announced by 4 May 2021. She informed that all the students have cleared their examination including those with backlogs. Dr. Samiksha suggested that a virtual farewell can be planned for the students and they can come to campus for their convocation.

- To discuss about SSR Documents.

Dr. Samiksha informed that Dr. Preethi N has verified all the documents and prepared the excel sheet. She requested all the vertical heads to print the document and must submit to the academic office. The documents will be signed, scanned and uploaded. The excel sheet must be filled in first and then the documents can be uploaded. Prof Akhil Nair asked about concession details or scholarship details. Dr. Samiksha informed the accounts office. Dr. Fr. Jossy informed that from upcoming batch scholarships can be given and they must come up with fixed parameters for that. He suggested that selected good students who have been given concessions can be considered for scholarships. Dr. Kedar Vishnu updated that he is compiling the documents for Economics.

- To get feedback from parents and students regarding the course

Prof. Pramila RM shared the feedback given by the parents and students with respect to the various programmes for the year 2020 - 2021. She also asked for inputs from the faculties regarding the feedback from the teachers, so that they can be implemented in the upcoming CDC.

BScDS

- Addition of Excel as primary skill development tool and to be spread to all the semesters. Dr. Samiksha suggested that it can be only given for two semesters as Basic and Advanced and not more than that.
- Inclusion of practical usability case study in industry for the subjects through the course. Dr. Preethi N suggested that from the next upcoming lab, they can give proper case study for the lab.
- A student included suggested that Data Communication and Networking is more theoretical in nature and pertaining to software engineering. To instead make it more hands on data analytics based. Dr. Samiksha told that the software engineering component cannot be removed, the syllabus for Software engineering has been revised which is more practical based.

BScEA

- Students suggested Addition of Developments Economy, Indian Economy and History of Indian Economy to be added to the course. Dr. Kedar Vishnu suggested that Indian Economics and Development Economics also to be added. He suggested that one or two more subjects of economics should be added to the course in the second semester to have a foundation in economics. Dr. Samiksha suggested that subjects cannot be added due to



the allotted credits but they can be shuffled and swapped. Dr. Prerona Baruah suggested that the Economics subjects and Analytics subjects be more connected for better understanding.

MScDS

- Parents suggested for Machine Learning and Deep Learning are implemented more hands-on in the lab.
- To discuss the Techfest.

Prof. Akhil Nair updated about the techfest which is scheduled for 7 - 8 May 2021. He informed that 12 colleges have registered for the fest. He raised concerns that they are not able to communicate with the institutions and students are also suggesting to postpone or cancel the techfest due to the pandemic. Dr. Fr. Jossy encouraged the fest to continue as they have a sufficient number of participating colleges. It was suggested the fest can be postponed the date instead of cancelling.

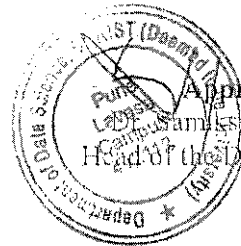
- To discuss Excel Training for IVMScDS.

Dr. Samiksha Shukla informed that the IVMScDS students are requesting Excel training. She suggested that it can be done as part of FDP in the month of June which can be attended by the teachers and students.

- To discuss about the placements.

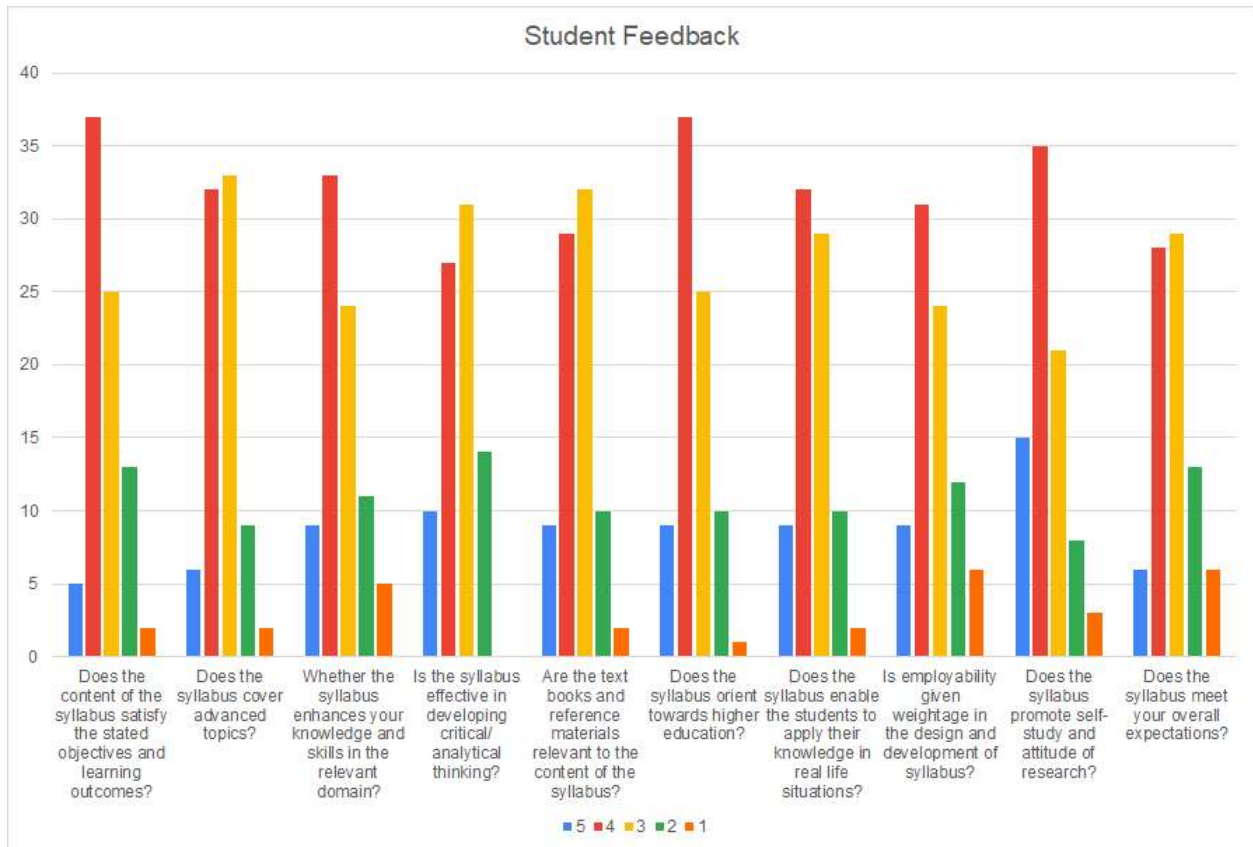
Dr. Kedar Vishnu informed that a student placed in Bajaj Allianz from 2 MA BE. He informed that as a student from 1 MA BE got placed in the Institute for Social and Economic Change. He suggested that one session from a resource person on guidelines for internship for 1 MA BE students. Dr. Samiksha suggested that if a student is enrolling the AWS Certification and if that can be considered as internship. She also informed that Digital Marketing internship and CAPS internships are. Dr. Fr. Jossy suggested that students can be given projects from Christ Infotech.

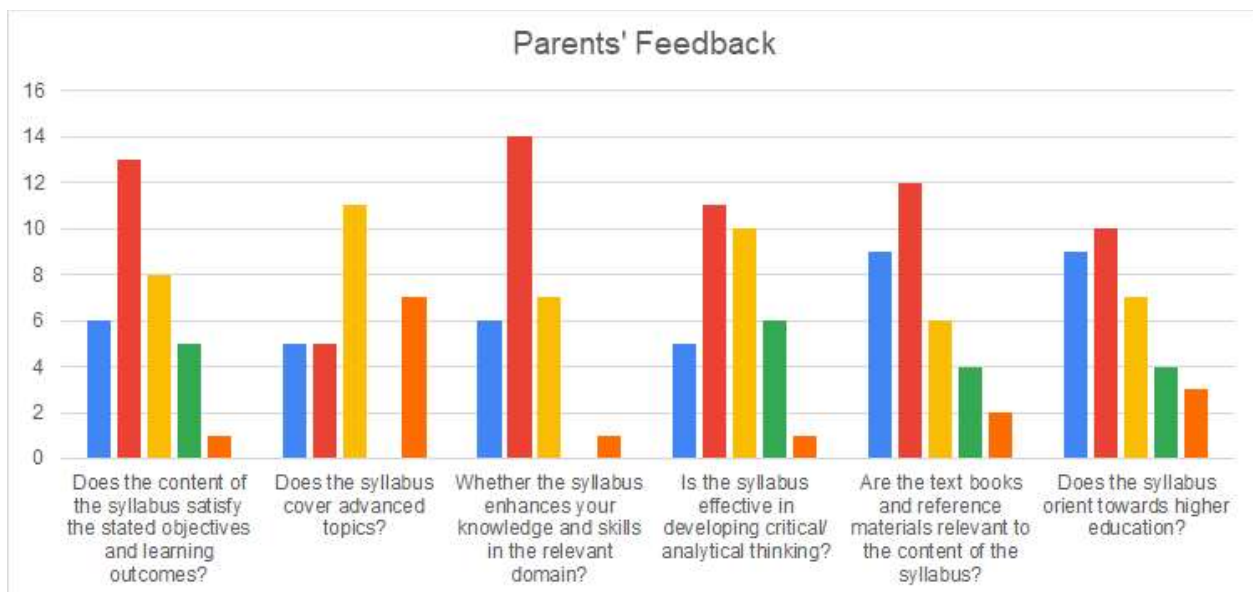
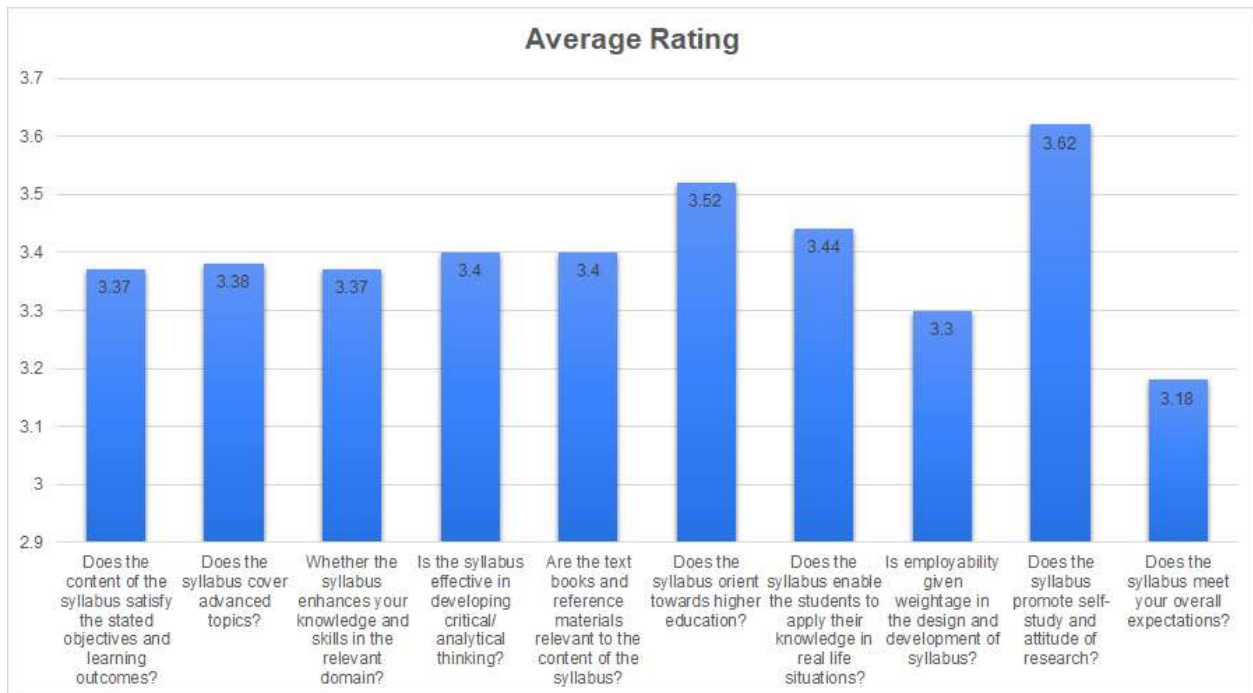
Prepared by:
Ms. Elsheba D
Office Coordinator

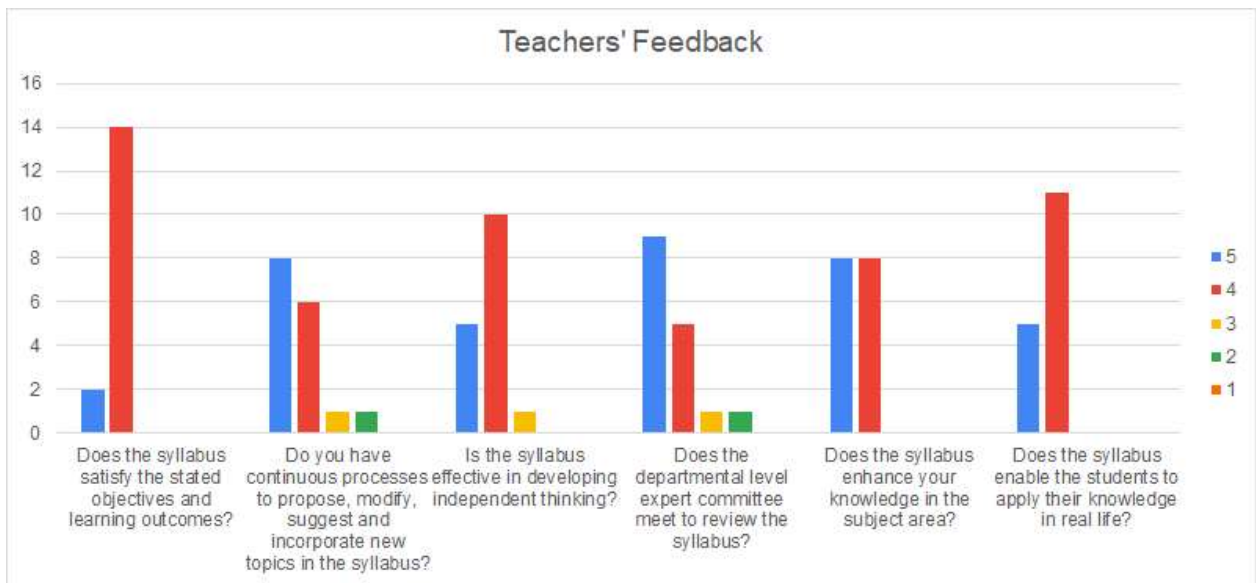
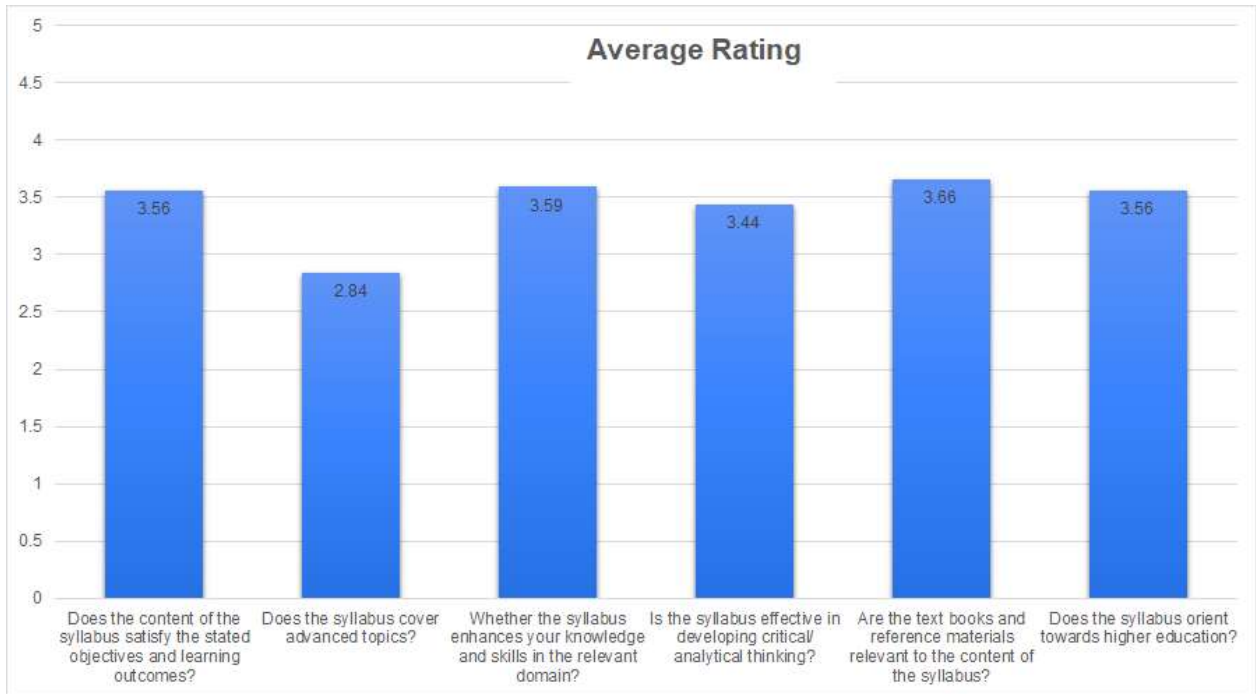


Approved by:
Dr. Samiksha Shukla
Head of the Department

b. Feedback







Department of Computer Science
Minutes of Meeting
Curriculum Development Meeting-2020

Minutes of the 1 Meeting of the Board of Studies of the Department of Computer Science held on 1st of February, 2020 at 3 pm at the Board Room, Central Block Christ (Deemed to be University).

In the Chair: Dr. Samiksha Shukla, Head of Department

Academic Expert- Dr Vivek Deshpande, Professor, Computer Science Engineering Dept. VIT, Pune

Industry Expert - Mr Kapil Tiwari, Associate Director, EZE Software, Hyderabad

Members Present:

All members as per the attendance list except the person on leave of absence were present

Declaration of Quorum and Calling the Meeting to Order:

The Chairman declared the validity of the Quorum and called the Meeting to Order. The Chairman the commenced the meeting with a silent prayer followed by a note of welcome to all and the invitee.

Agenda:

1. To present the curriculum for BSc (DS)
- 2 To consider and recommend the change in curriculum and syllabus for BSc (DS) programme as per the feedback received.
 - a. Three-year BSc (DS) programme, 2019-22
 - b. Two-year MSc (DS) programme 2019-21.
3. To consider and recommend the new UG/PG programme/course in Economics Analytics and Finance as per the programme
4. To consider and approve the Certificate programmes.
5. To review the CIA pattern for BSc (DS) programmes
6. To consider any other matter with the permission of the Chair.

Matters on the Agenda:

1. To present the curriculum for BSc (DS).



Dr Samiksha presented the curriculum for BSc (DS) programme 2019-22. Presented the matrix for the BSc Economics Analytics and Finance and MSc (DS). Also presented the proposed syllabus for BSc (DS) as well as BSc (Econometric)

2. To consider and recommend the changes in the curriculum for the following programmes:

- I. BSc (DS)
- II. BSc (Economics Analytics and Finance)
- A. **BSc (DS)**

Based on the feedback from the experts and stakeholders the following suggestions were proposed for B.Sc Data Science

Sem I:

Programming with Python instead of Programming using C

To introduce the Foreign Language.

Suggested to include Applied Excel instead of Office Automation tools.

Principles of Management can be excluded

Syllabus changes was approved for

- Discrete Mathematics
- Fundamentals of Statistics

Sem II: For "Differential Calculus" should be "Calculus"

Syllabus changes was approved for

- Probability and Distribution Theory
- Introduction to Data Science (CIA Only)
- Advanced Python for Data Science (CIA Only)
- R for Analytics (CIA Only)


Sem III: Synchronization of the courses from Unit 1 to Unit 5 should be aligned along with each semester to connect the dots. For the course "Operating system" and "Software Engineering" MOOC certificate course can be included

Syllabus changes was approved for

- Professional Ethics in Computing
- Operating system
- Inferential Statistics (CIA Only)

Sem IV. Advanced Python can be taught in Sem II and Java Programming can be introduced

- Sampling Techniques
- Software Engineering
- Data Communication and Networking



- Applied Excel (CIA Only)

Sem V: More options in Elective 1 and Elective II can be replaced with Core Subjects in the domain.

Machine Learning (CIA Only)

Operations Research

Web Programming (CIA Only)

Mobile Application Development (CIA Only)

Digital Image Processing

Econometrics for Data Science

Sem VI: Elective III can include courses related to Statistics and Modelling

Elective IV can be an elective basket for Visualization Tools.

Syllabus can include a Foreign language, Course on Big Data Analytics

Data Visualization Techniques (CIA Only)

Time Series and Forecasting

(CIA Only)

Big Data Analytics (CIA Only)

Stochastic Analysis

Introduction to Multivariate Analysis

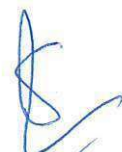
Actuarial Mathematics and Statistics

Actions:

To finalize the electives according to the job/ company's perspective rather than have more electives.

3. To consider and recommend the new UG/PG programme/course in Economics Analytics and Finance as per the programme.

The Board considered the proposed Certificate Courses in Negotiable Instruments as per details given in Annexure D of the Notice and approved the same. The Board appreciated the value added benefits of the Courses.



BSc (Economics Analytics and Finance)

Proposals:

Based on the feedback from the experts and stakeholders the following proposal was submitted for BSc (Economics Analytics and Finance)

Introduction of new courses: "Data Ethics", "Foreign Languages- Marathi/Hindi" could be introduced. For each semester the following suggestions were recommended.

Sem I: Intro to Micro and Macro Economics and Analytics subjects should be introduced.

Sem II: Applied Micro and Macro Economics along with Foreign Language. Environmental Science and second language must be included as per UGC.

Excel for Analytics I and II can be clubbed as one subject in Sem1 and introduce R for Analytics in Sem II

Sem III: Optimization Techniques should be included.

Python programming should be in Sem I. To shift some of the subjects in second semester. Data Structures and Python need not be included for Economics Students.

Rework on the credit and no. of hours

Sem IV: "Research methodology for consulting" can be reconsidered.

"Data based decision making" should be domain based.

Sem V: Elective Software Engineering-Agile or DevOps" should be included.

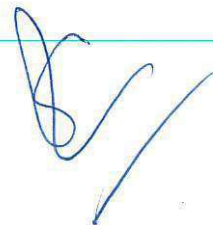
Sem VI: Elective 3- "Econometrics can be excluded

Actions:

As per suggestion from academic and industry experts, suggestions for mandatory courses can be taken into action. To work for the programme objective for both merged courses. Equal credits should be given to Economics and Analytics. Introduce hand-on practical labs for Excel, Python and Tableau along with the R-programming Economics and Analytics credits hours to be included with equal weightage.

3. To consider and approve the Certificate programmes.

The Board considered the proposed Certificate Courses in Negotiable Instruments as per details given in Annexure D of the Notice and approved the same. The Board appreciated the value added benefits of the Courses.



6. To consider any other matter with the permission of the Chair.

The expert members suggested following points with due permission from the chair:

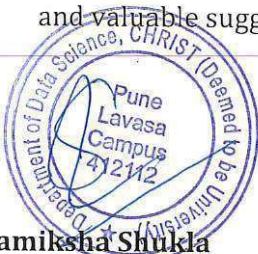
BSc (Data Science)

- To change the assessment of the programs conducted for the Python programs by giving project-based module.
- Problem solving approaches should be addressed.
- Network Security could be introduced as regular course.
- Self-study hours could be introduced in time table to promote self-learning and to have research focus.
- To keep open for Electives and opt for 2 Electives rather than 3.

BSC (Economic Analytics and Finance)

- Appreciated about the new course on Economics Analytics and Finance.
- The Board appreciated the provision in the curriculum as a Special Elective course to accommodate emerging trends and market demand courses could be offered.
- Equal credit hours should be given to both Finance and Analytics

Chairman adjourned the meeting thanking all the participants. The chairman particularly thanked Academic expert, Industry Expert and Dr Fr Jossy and Dr Fr Arun for their presence and valuable suggestions



Dr Samiksha Shukla
HOD Department of Data Science