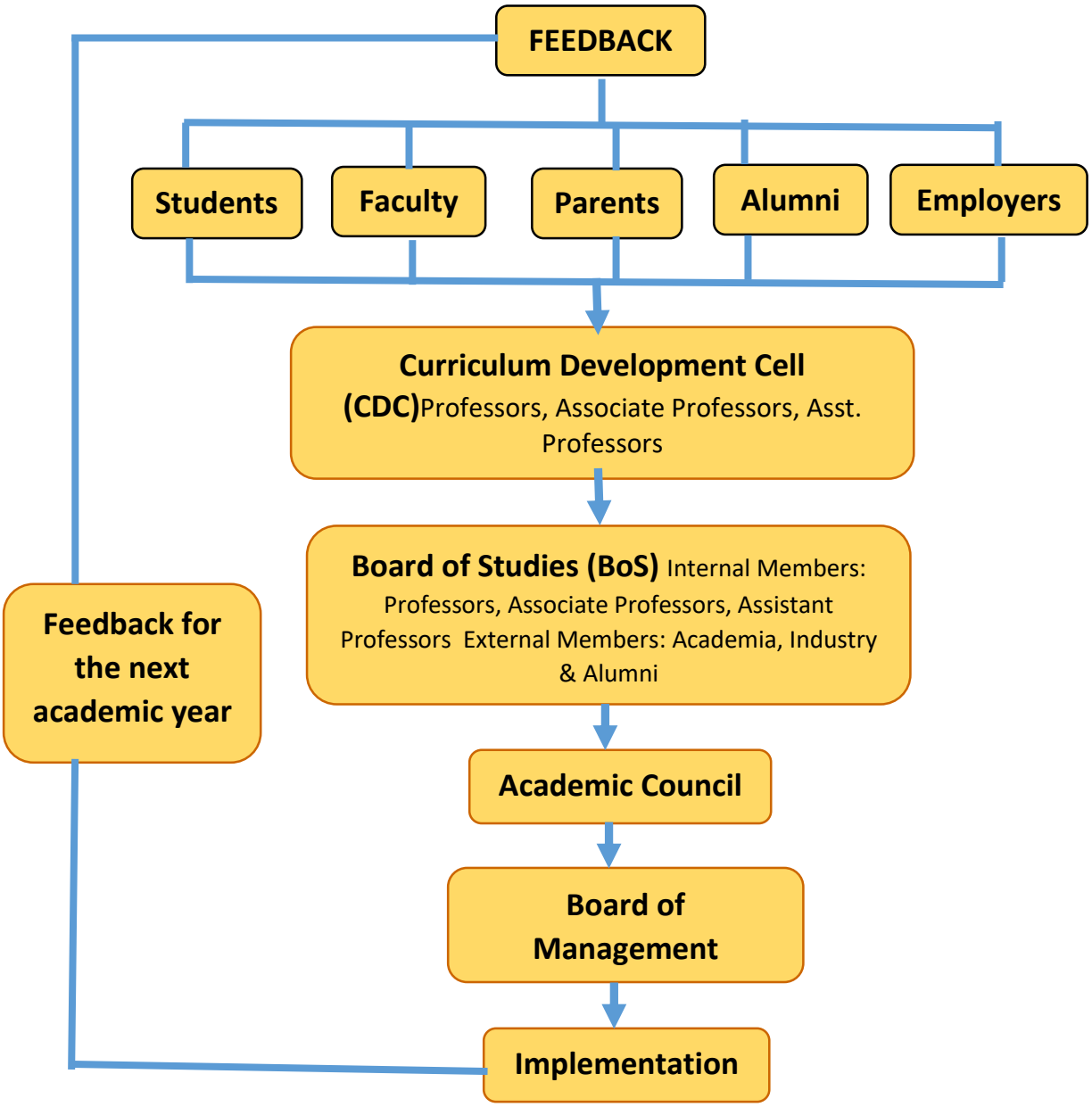
PROCESS ON CURRICULUM DESIGN

In order to enrich the curriculum and syllabi, statutory meetings like Board of Studies, Academic Council and Board of Management are conducted twice a year. During this enrichment process, feedback on the curriculum & syllabi from various stakeholders like students, faculty members, parents, alumni and employers are obtained through structured feedback forms. Based on the feedback, Curriculum Development Cell (CDC) will analyse and consolidate the changes required in the courses and syllabi.

The CDC minutes which highlights the changes incorporated based on the feedback analysis report will be presented in the Board of Studies (BoS) meeting. BoS will thoroughly scrutinise the entire curriculum & syllabi and carryout the necessary changes in the curriculum & syllabi.

The HoDs concerned will present the salient features of the proposed changes in the curriculum and syllabi and move the resolutions in the Academic Council. The suggestions given by the Academic Council will be incorporated by the HoDs and the minutes of the Academic Council will be presented to the Board of Management for review and approval. The process flow chart is given below.



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

FEEDBACK FROM STAKEHOLDERS AND ACTION TAKEN

(2018-19)

The department has formal and informal mechanisms to obtain feedback from stakeholders through various committees, associations and organizations, etc.

1. a. Employers Feedback

- Recruiters appreciated the attitude of the students during the interview.
- Need more training on oral and written skills.
- Suggested to include training on logical and analytical skills.

1. b. Parents Feedback

- Parents suggested including latest languages like IoT, Python, and Data Science in the curriculum.
- Requested for special classes for arrears.
- Parents felt happy about the ambience, training given by the faculty, hostel facility, guidance of the mentors.

1. c. Alumnus Feedback

- Alumnus expressed that the students need exposure towards emerging technologies with industry lecture.
- Alumnus suggested addressing social needs in the curriculum.

19CS2001 - Internet of Things Lab

Course Objectives:

Enable the student to

1. understand the IoT devices, application areas and technologies involved.
2. recognize the IoT sensors and technological challenges faced by IoT devices.
3. explore and learn IoT with the help of Raspberry Pi and Arduino.

Course Outcomes:

The student will be able to

1. understand building blocks of Internet of Things and characteristics
2. apply the concepts of IOT.
3. identify various sensors used for applications.
4. understand the working principles of sensors, Arduino boards.
5. Apply IoT to various small-scale real-world applications.
6. analyze the data received through sensors in IOT.

List of Experiments:

1. Interfacing Sensors to Arduino Board
2. Interfacing Actuators to Arduino Board
3. Interfacing Bluetooth module.
4. Interfacing Wifi module.
5. Connecting Display Devices
6. Connecting to Thingspeak Cloud.
7. Uploading Data to Amazon Cloud.
8. Working with MQTT Protocol.
9. Working with HTTP Protocol.
10. Developing IoT Systems

19CS2002 - Introduction to Data Science

Course Objectives:

Enable the student to

1. understand the key concepts of data science and its applications
2. gain in-depth knowledge on statistical and machine learning techniques
3. implement simple applications and analyze the results using relevant tools

Course Outcomes:

The student will be able to

1. remember the key concepts of data science, data characteristics, its applications and the toolkitused by data scientists
2. recall the mathematical concepts for descriptive and statistical analysis of the given dataset
3. discuss on the principle of operation of various data preparation and machine learning techniques.
4. select appropriate mathematical and machine learning techniques for designing simple applications.
5. apply the relevant techniques for implementing simple applications
6. interpret the results of data preparation and machine learning techniques.

Module 1: Basics of Data Science

Properties of Data – Structured Data - Unstructured Data – Quantitative Data – Categorical Data – Big Data – Little Data – Data Visualization - Tool Boxes for Data Scientists.

Module 2: Mathematical Preliminaries

Probability – Descriptive Statistics – Data Preparation – Exploratory Data Analysis – Estimation

Module 3: Statistical Inference

The Frequentist Approach – Measuring the variability in Estimates – Hypothesis Testing.

Module 4: Supervised Learning

Learning Types - Linear Regression – Simple Linear Regression – Multiple and Polynomial Regression – Sparse Model - Logistic Regression **–** Decision Tree – k-Nearest Neighbor - Support Vector Machine – Random Forest.

Module 5: Unsupervised Learning

Clustering – Similarity and Distance Measures – K-means clustering – Agglomerative Clustering – Similarity Graphs and Cut-Based Clustering.

Module 6: Recommender System

Content Based Filtering – Collaborative Filtering – Hybrid Recommenders – Evaluating Recommenders – Practical Cases

Text Books:

1. Laura Igual, SantiSeguí, "Introduction to Data Science: A Python Approach to Concepts, Techniques and Applications", 1st ed. 2017 Edition, Springer, ISBN 978-3-319-50016-4e-ISBN 978-3-319-50017-1.
2. Steven S. Skiena, "The Data Science Design Manual", 1st ed. 2017, Springer, ISBN 978-3-319-55443-3.

Reference Books:

1. Steven Cooper, "Data Science from Scratch: The #1 Data Science Guide for Everything A Data Scientist Needs to Know: Python, Linear Algebra, Statistics, Coding, Applications, Neural Networks, and Decision Tree", 2018, ISBN-10: 1723141208, ISBN-13: 978-1723141201.
2. Cathy O'Neil and Rachel Schutt, Doing Data Science, Straight Talk from The Frontline. O'Reilly, 2014. ISBN: 978-1-449-35865-5.
3. SinanOzdemir, "Principles of Data Science", 2016, Packt Publishing Limited, ISBN-10: 9781785887918, ISBN-13: 978-1785887918
4. V. K. Jain, Data Science and Analytics, First edition, 2018, Khanna Publishing, ISBN-10: 9789386173676, ISBN-13: 978-9386173676.
5. Jake VanderPlas, "Python Data Science Handbook: Essential Tools for Working with Data", 2016, Shroff/O'Reilly, ISBN-10: 9352134915, ISBN-13: 978-9352134915
6. Peter Morgan, "Data Science from Scratch with Python: Step-By-Step Guide", Createspace Independent Publishing Platform, 2nd edition, 2018, ISBN-10: 1726020681, ISBN-13: 978-1726020688.

Karunya Institute of Technology and Sciences

(Deemed University)

Declared as a Deemed to be University under sec. 3 of the UGC Act, 1956

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

ALUMNI FEEDBACK

Dear Alumnus,

We shall very much appreciate and be grateful to you if you can spare some of your valuable time to fill up this feedback form. It would help us in our efforts to Contribute the best talent to the society in terms of qualified and morally upright Engineers.

Name of the Alumnus as per Karunya records: Pooja Singh					**Reg.No:** URI4CS300	
Course Studied (Tick the relevant) **B.Tech / M.Tech / Ph.D:**				**Branch:**		
IF PLACED-Company Name:		**Location:**		**Designation:**	**Salary per Annum:**	
IF PURSUING HIGHER STUDIES-Institution Name: **Course:**				**Location:** **Specialization:**		
Permanent Address: **Pin Code:** **Landline with STD Code:**				**Communication Address:** **Facebook Link:** **Mobile No:**		
S.No	**Assessment Criteria for Karunya University**	**Rating**				
		5 (Excellent)	**4 (Very Good)**	**3 (Good)**	**2 (Average)**	**1 (Needs Improvement)**
1	Opportunity for improving communication skills	✓				
2	Personality development and character building		✓			
3	Attitudinal improvement (such as self-motivation, level of confidence)			✓		
4	Ethical and social responsibilities		✓			
5	Relevance of curriculum in addressing social needs			✓		
6	Innovation and creativity		✓			
7	Strong foundation in fundamentals		✓			
8	Encouragement received towards higher studies and career enhancement		✓			
9	Academic support extended by the faculty			✓		
10	Mentoring offered to the students and follow-up			✓		
11	Motivation for co-curricular and extra-curricular activities		✓			
12	Exposure to emerging technologies through industrial lectures				✓	
Any other comments or suggestions:						

Signature: Pooja Singh **Date:** 06.03.18 **Place:**

Karunya Institute of Technology & Sciences
(Deemed to be University)
CENTRE FOR PLACEMENT & TRAINING
Karunya Nagar, Coimbatore 641 114

FEEDBACK FROM CORPORATES
PERFORMANCE OF STUDENTS FROM KARUNYA UNIVERSITY

1. **Name of the Company: M/s** AVANTOR / VWR
2. **Nature of the Company** – ~~IT / ITES /~~ ~~Manufacturing~~ / Service / ~~Construction~~
3. Please rate the **Overall Performance** of our students as per the following parameters:-

Technical Skills

	Factors	Excellent	Good	Average	Below Average
A	General Aptitude		✓		
	Technical Aptitude		✓		
	Application Oriented Skills		✓		
	Basic Technical Knowledge		✓		

Soft-Skills

B	Leadership Qualities			✓	
	Professional Knowledge			✓	
	Result Orientation		✓		
	Creativity			✓	
	Attitude		✓		
	Communication Skills		✓		
	Interpersonal Relationship		✓		
	Team Building		✓		
	Self Development			✓	

4. Kindly Indicate if you have any other additional feed-back to offer :-

Communicate (Oral & written) can be Improved Students are not able to Communicate the thoughts. however they are thinking in the right direction.

Signature: _____

Name: N. GOPINADHAN NAIR

Designation: ASSOCIATE DIRECTOR

Mobile Number: 8220013779

Date: 6/2/19

Karunya INSTITUTE OF TECHNOLOGY AND SCIENCES
(Deemed to be University)
Karunya Nagar, Coimbatore - 641114, Tamilnadu, South India
Phone: +91-422-2614300; Fax: +91-422-2615615; website: www.karunya.edu

Department of Computer Science and Technology
Parents' Feedback

Dear Parent,

We shall very much appreciate and be grateful if you can spare some of your valuable time to fill up this feedback form. It would help us in our efforts to contribute the best talent to the society in terms of qualified and morally upright Engineers. **-HoD/CST**

Name of your ward: DANIEL MANOHAR **Reg.No:** URI6CS111

Programme: B.Tech. /~~M.Tech~~. **Year:** III · B.Tech

S.No	Assessment Criteria	5 Point Scale Rating				
		5 Strongly Agree	4 Agree	3 Neutral	2 Disagree	1 Strongly Disagree
1	Getting admission in KITS for my ward is a matter of pride	☐	☑	☐	☐	☐
2	I often interact with my ward and Institute to find out his/her academic progress	☐	☑	☐	☐	☐
3	With my interactions, I feel that the discipline in the Institute is good	☑	☐	☐	☐	☐
4	The atmosphere in the Institute is conducive for good living and learning	☑	☐	☐	☐	☐
5	There is a positive change in the behavior of my ward after joining the Institute	☐	☑	☐	☐	☐
6	The Institute website is informative and regularly updated	☐	☑	☐	☐	☐
7	The curriculum of the programme is well designed and incorporates latest topics for better employability	☐	☑	☐	☐	☐
8	The systematic continuous assessment, end semester examination and results declaration is appreciable	☐	☑	☐	☐	☐
9	Faculty and staff supports my ward's academic requirements beyond curriculum	☐	☑	☐	☐	☐
10	The Central Library of the Institute is equipped with latest books and facilities for self-learning	☑	☐	☐	☐	☐
11	All the Institute Employees are cordial and cooperative	☐	☑	☐	☐	☐
12	The Institute helped my ward to develop Communication skills, reading and writing habits	☐	☑	☐	☐	☐

S.No	Assessment Criteria	5 Strongly Agree	4	3	2	1 Strongly Disagree
13	The Institute dealt effectively with any unacceptable behavior	☑	☐	☐	☐	☐
14	The Institute has a reasonable Counselling & Career Guidance facilities	☑	☐	☐	☐	☐
15	Hostel accommodation is good and well maintained with all amenities	☑	☐	☐	☐	☐
16	The hostel messes are hygienic and serves good food	☐	☑	☐	☐	☐
17	The Institute has good canteen and other eating places, working up to late hours	☐	☑	☐	☐	☐
18	The guest house accommodation is extended to the visiting parents	☐	☐	☐	☐	☐
19	The Institute has good Sports & Games facilities	☑	☐	☐	☐	☐
20	The Medical facilities provided at the Institute are good	☐	☑	☐	☐	☐

Any other comments or suggestions for improvement:

It would be good to include latest tools and programming languages like Python, IOT, Cloud Computing in your Regular academic Syllabus.

Name	Father	Mother	Guardian
	SAMUEL MATHURAM	RACHEL SAMUEL	
Mobile No	9866193961	9866118415	
Email ID	Smathuram@hotmail.com	RachelSeeli@gmail.com	

Address for communication	Permanent Address
304, Kavya Greens Apts; Brindavan Colony, Nizampet Road. Kukatpally, Hyderabad	

Signature:

Date: 09-02-19

Mentor's Name: Sharmila

ACTION TAKEN REPORT 2018-19

Sl. No.	Feedback	Action taken
1	To enhance the logical and analytical skills of the students	The General aptitude and Technical aptitude training sessions were included in the time table.
2	To include the latest tools and programming languages such as python, IOT, data science in the curriculum	The curriculum for Programming in Python, Internet of Things, IOT lab, data science were framed, scrutinized and included