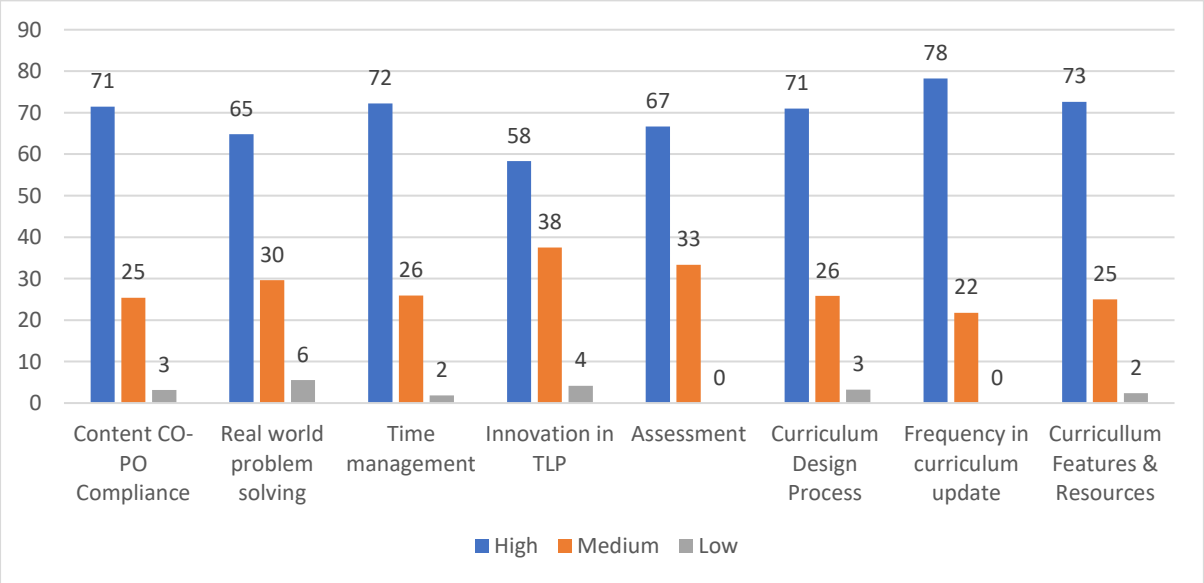
Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)

DEPARTMENT OF BIOMEDICAL ENGINEERING

FEEDBACK ANALYSIS FOR ACADEMIC YEAR 2020-2021



INFERENCE:

1.The Stakeholders are satisfied with the following:

- Content CO PO Compliance
- Curriculum Design process
- Frequency in Curriculum update
- Curriculum features and updates

2.Stakeholder suggests improvements for the following:

- Real World Problem Solving
- Innovation in TLP
- Assessment

3. Stakeholders recommended following features to be included in curriculum

Knowledge	Tools	Skills
Anatomy and Physiology	-	Special Senses such as Skin
Biomedical Product Development	3D Printing Raspberry Pi Python Programming	Internet of Things (IoT) Biomaterials
Medical Robotics	Coding Da Vinci Medical Robots	Control Systems
Instrumentation	LabVIEW Solidworks	Data Acquisition Parallel Processing Interfacing
Biomedical Regulations	Medical Devices such as Critical Care Equipment	Regulatory Services
Artificial Neural Networks	Adaline Madaline	-

Recommendations:

1. Two new courses – i.e., control systems and biomaterials shall be introduced as a program core in the upcoming regulation to respectively address the knowledge gap in robotics and product development
2. Technical communication skills can be improved through group discussions and seminars
3. Value added courses / industry higher learning courses on Raspberry Pi and IoT shall be introduced. 3D printing can be taken as an institute elective course.
4. As the availability of learning resources for students are limited, it is recommended to utilize online open-source resources and also to procure the needed resources through library
5. The availability of lab resources is finite. So, it is recommended to include more lab facilities involving modern tools related to industries.

N M. Masoodhu Banu

Dr. N.M. Masoodhu Banu
HOD, Biomedical Engineering

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Department of Biomedical Engineering

Stakeholders Feedback Analysis

Academic Year 2020-21

Criteria	High	Medium	Low
Content CO-PO Compliance	71	25	3
Real world problem solving	65	30	6
Time management	72	26	2
Innovation in TLP	58	38	4
Assessment	67	33	0
Curriculum Design Process	71	26	3
Frequency in curriculum update	78	22	0
Curricullum Features & Resources	73	25	2

Specific Comments on Topics / Skills / Tools

	Knowledge	Tools	Skills
Industry	Anatomy and Physiology	-	Special Senses such as Skin
	Biomedical Product Development	3D Printing, Raspberry Pi and Python Programming	Internet of Things (IoT) and Biomaterials
	Medical Robotics	Coding and Da Vinci Medical Robots	Control Systems
	Instrumentation	LabVIEW and Solidworks	Data Acquisition, Parallel Processing and Interfacing
	Biomedical Regulations	Medical Devices such as Critical Care Equipment	Regulatory Services
	Artificial Neural Networks	Adaline,Madaline	-

Feedback Report of Faculty

Criteria	High	Medium	Low
Content CO-PO Compliance			
Course content is relevant to the course mapping	7	1	0
Course outcome contribution towards PO attainment	6	2	0
Course is relevant to the PSC	5	3	0
Course outcome levels are relevant to the course content	6	2	0
Real world problem solving			
Course content demand usage of modern tools	3	5	0
Course content addresses current industry practice	5	3	0
Course content will serve for future industry practice	5	2	1
Time management			
Adequate time available to deliver content	8	0	0
Adequate time available to conduct Assessment	7	1	0
Innovation in TLP			
Provision to introduce new TLP method	5	3	0
Availability resources in internet	7	1	0
Availability of resources in local library	2	5	1
Assessment			
All assessment questions are as per blooms taxonomy and CO level	7	1	0
Questions are relevant to CO	6	2	0
There is less/ no deviation among internal and external question paper	3	5	0

Feedback Report of Student			
Criteria	High	Medium	Low
Curriculum Design			
BoS is taking care of current and Relevance of the offering Programme	9	6	0
Active participation in providing suggestions in curriculum design	9	4	2
Curriculum design methodology followed by department	9	6	0
Frequency in curriculum update			
The curriculum is updated regularly	11	4	0
Improvements in lab experiments	9	5	1
Suggestions and Improvements			
Time available for course preparation	9	5	1
Availability of course reference materials (List non availability of reference materials)	11	3	1

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School of Electrical & Communication

Department of Biomedical Engineering

FEEDBACK ON CURRICULUM

AY2020-21

1. **Name** : Dr. J. Samson Isaac,

2. **Position** : Assistant Professor,

3. **Organization** : Karunya Institute of Technology, Coimbatore

4. **Contact No.** : 9597778204

5. **Email ID** : samsonisaac@karunya.edu

The curriculum of all the B.Tech programs of our university are developed from the Washington Accord Graduate attributes that clearly describe the expected qualities in terms of Engineering Knowledge and Skills, and attitude to be demonstrated by the students during exit of the programme. Our curriculum and syllabus as well as we are preparing ourselves for adapting CBCS system.

This CBCS aims to shift the focus from teacher centric to student centric learning. It allows the students to prepare various career options such as employment in engineering industries, IT industries, higher education in reputed institutions and career in research organizations.

We request you to go through our curriculum which is attached as annexure I and give your valuable suggestions to enrich the curriculum further.

1. Are any specific/ New/ Advanced topics to be included to or removed from any of the Course(s)/ Subjects. If yes, please mention the topics to be included/ removed against each Course(s)/ Subjects as given in the following table.

Title of Course(s)/ subjects	Topics to be included	Topics to be removed
1152BM106 Rehabilitation Engineering	3D Printing	-
1152BM107 Robotics in	Study on DaVinci Medical	-

Medicine	Robot, Tele-Robots	-
Microprocessor and Microcontroller Laboratory	IoT based experiments	

2. If you have identified any specific skills, required for graduates of our branch/ department, to be imparted through the curriculum, please list them.

- Developing technical communication skills through seminar, group discussion
- Develop mini project

3. May we request you to suggest some of the value-added courses; professional certification for those, industries will give preference during recruitment of freshers?

Course on Critical care equipment's
Medical device regulatory services } Offered by IBSC, Vishagapatnam,

4. Specify some industries, Research centers, R&D labs and reputed institutions either in India or Abroad for our faculty to visit and observe best practices.

Vital Biosystems, Chennai.

Lub Dub Medical Technologies Pvt Ltd, Chennai

Wipro GE healthcare, Bangalore

5. Could you suggest some of innovative instructional (teaching) techniques to enhance students learning?

Prefer to use video based lectures compared to conventional white board could be preferred for few topics.

6. Could you mention professional certification, training programs to improve our faculty competency?

Certified Biomedical Engineer- Offered by IBSC-Valid by Govt of India, and many other training are offered for faculty.

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Any other Comments:

Curriculum is well designed and caters to the student needs in knowledge and application.

It also includes courses for placement and career developments.

Signature

N.M.M 20/11/2020

Dr. N.M. Masoodhu Banu
HOD, Biomedical Engineering

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R&D Institute of Science and Technology

Department of Biomedical Engineering

Faculty Feedback on Curriculum (2020-21)

Name: Dr. THIYAM DEEPA Devi
ID No: TTS 2872
Designation: Asst. Prof.
D.O.J: 27th May 2019

S.No	Criteria	High	Medium	Low
	Content – CO-PO- Compliance			
1	Course content is relevant to the course mapping	✓		
2	Course outcome contribution towards PO attainment	✓		
3	Course is relevant to the PSC	✓		
4	Course outcome levels are relevant to the course content	✓		
	Real World Problem Solving			
5	Course content demand usage of modern tools			
6	Course content addresses current industry practice		✓	
7	Course content will serve for future industry practice		✓	
	Time Management		✓	
8	Adequate time available to deliver content			
9	Adequate time available to conduct Assessment	✓		
10	Students are attentive in class	✓		
	Innovation in TLP	✓		
11	Provision to introduce new TLP method			
12	Availability resources in internet		✓	
13	Availability of resources in local library	✓		
	Assessment		✓	
14	All assessment questions are as per blooms taxonomy and CO level	✓		
15	Questions are relevant to CO	✓		
16	There is less/no deviation among internal and external question paper	✓		
	Curriculum Design			
17	BOS is taking care of Current and Relevance of the offering Programme	✓		
18	Employability skills are addressed in curriculum	✓		
19	Active participation in providing suggestions in curriculum design	✓		
20	Curriculum design methodology followed by department	✓		
21	The curriculum is updated regularly	✓		

Kindly provide suggestions to improve (Answers marked with Medium and Low)

K-level for Hospital Management can be increased so that the students can apply the theoritical knowledge

Signature

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Department of Biomedical Engineering

Students Feedback

Name: Md. Azaharuddin Ansari

ID No.: 10493

Year: 2020-2021

Batch: 2017 – 2021

S.No	Questions	High	Medium	Low	NA
1	How do you rate the syllabus of the courses that you have studied in relation to the competencies expected out of the course	✓			
2	How do you rate the allocation of the credits to the courses	✓			
3	Rate the size of the syllabus in terms of the load on the student	✓			
4	How do you rate the availability of course reference materials	✓			
5	How do you rate the course outcomes stated for each of the course	✓			
6	How do you rate the lab experiments designed for the respective course	✓			
7	How do you rate the time available for course preparation	✓			
8	How do you rate the facilities of the lab you performed for the respective course		✓		
9	Board of studies is taking care of Current and Relevance of the offering Programme	✓			
10	Active participation in providing suggestions in curriculum design			✓	
11	The curriculum is updated regularly		✓		
	Kindly provide suggestions to improve (Answers marked with Medium and low)				

Azaharuddin Ansari
SIGNATURE

N.M.M

Dr. N.M. Masoodhu Banu
HOD, Biomedical Engineering

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N.H.R

Dr. N.M. Masoodhu Banu
HOD, Biomedical Engineering

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Rangarajan Dr. Sagunthala

1) Do you like the curriculum in biomedical ~~department~~ yes/no what is the reason?

=> Yes, because it covered most of the courses which is needed for biomedical students.

2) When you joined in the Veltech what was promised to you in curriculum?

=> It was promised that I will be taught all the impor tant concepts theoretically as well as practically which is useful for me to become biomedical engineer and it will also help me for doing job ~~and~~ & as well as for higher studies.

3) Do you know the list of laboratories in the curriculum

=> Yes, I know the list of laboratories in the curriculum.

4) Any laboratories in the curriculum has not yet been established. If so list them

=> Yes, Biomaterial lab, Biomechanics lab, DPE lab

5) Any extra curricular laboratories you would like to include. If so list them

=> Yes, Sensors and Transducer lab and Control system lab

6) Any ~~direct~~ curricular changes you would like to have. List what changes are required.

A. 6) ~~BSP~~ ~~Bio signal processing~~ ~~Instrumentation~~

=> I think Bio signal processing Instruments (BSP LAB) is not really needed. Because most of the concept are already taught in Microprocessor and micro controller course and practically it was implemented in MPMC la

Instead of BSP lab, I would like to suggest to add Biomechanics or tissue engineering course which will help a student to explore in artificial organ domain if he/she wants to study it as postgraduate.

Any one programming language should be taught which helps

Any one programming language among Python/ MatLab or C should be taught in the department instead of expecting student will learn it by themselves.

7) Have you ever compared your curriculum with other university/colleges. If so List the university and college.

=> Yes, I have compared my curriculum with other universities/colleges. The list of these universities and colleges.

i) College of Biomedical Engineering and Applied Science (Kathmandu, Nepal)

ii) SRM institute of Science and Technology (Chennai/India)

A 8) From Q.no 7 what do yo infer.

=> Some courses are missing in our curriculum which should be offered by our department. like biomechanics, control system.

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R&D Institute of Science and Technology

SCHOOL OF ELECTRONICS & COMMUNICATION ENGINEERING
DEPARTMENT OF BIOMEDICAL ENGINEERING
FEEDBACK ANALYSIS REPORT (CURRICULUM DEVELOPMENT)
AY 2019-20

S.No		Overall		
I Curriculum Design & Development		**A**	**D**	**Remarks For Improvement**
1	Updating current topics in BoS	94	6	
2	Employability weightage in BoS	98	2	
3	Opportunity to express comments in curriculum design	98	2	
4	Methodology of curriculum design	100	0	
5	Frequency of curriculum update	90	10	Updated twice in a year. Still some of the students are not aware of it
II Improvement required in curriculum				
1	Students interest in pursuing course	79	21	Student shoud be motivated to attend classes with more active learning casses
2	Time management for course offering	96	4	
3	Learning resource availability	94	6	
4	Quality of lab experiments	94	6	
5	TLP practice improvements	88	12	Facult will be motivated to bring out more active learning classes
Open feedback salient points(Comments received)				

Industry / Academic Expert	New topics needed / deleted	Biosensors & transducers, Signals and systems
	New skills required	Medical standards,3D printing, Dental implants and instruments
	Value added courses	Trouble shooting of medical devices, Medical Coding, MAT Lab, LabView
	IV/Faculty visit	AMTZ, SCTIMST, Centre for Biomedical, IIT Delhi
	TLP technique	Virtual Medical equipment's operation
	FDP for faculty	ATAL,NPTEL

Action taken recommended:

1. Session on active learning methodologies need to be conducted.

N.H. [illegible]

HOD

15/3/20.

Members

1. Dr. Deepa Beeta [signature] 15-03-20
2. Dr. K. Ganesh lenin [signature] 15.3.2020
3. Dr. G. Saraniya [signature] 15/3/20

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School of Electrical & Communication

Department of Biomedical Engineering

FEEDBACK ON CURRICULUM

AY(2019-20)

1. **Name** : Manikandan Kaliappan

2. **Position** : Assistant Professor

3. **Organization** : Sona College of Technology

4. **Contact No.** 9940175742

5. **Email ID** : Manikandan.bme@sonatech.ac.in

The curriculum of all the B.Tech programs of our university are developed from the Washington Accord Graduate attributes that clearly describe the expected qualities in terms of Engineering Knowledge and Skills, and attitude to be demonstrated by the students during exit of the programme. Now we are in the process of updating our curriculum and syllabus as well aswe are preparing ourselves for adapting CBCS system.

The CBCS provides full flexibility for students to learn wide variety of courses such as Programme Core, Programme Electives and Value added courses. It allows the students to prepare various career options such as employment in engineering industries, IT industries, higher education in reputed institutions and career in research organizations.

We request you to go through our curriculum which is attached as annexure I and give your valuable suggestions to enrich the curriculum further.

1. Are any specific/ New/ Advanced topics to be included to or removed from any of the Course(s)/ Subjects. If yes, please mention the topics to be included/ removed against each Course(s)/ Subjects as given in the following table.

Title of Course(s)/ subjects	Topics to be included	Topics to be removed
1151BM106 / Engineering Mechanics	Instead giving Engg mechanics we can consider to reframe the subject as Biomechanics which will useful for Biomedical Students	
1151BM107 / Bio Sensors andtransducer		The Syullabus is too heavy . Instudent point of view.It is better reduce some content
1151BM108 Signals and Systems	Structure Realization (DF-I,DF-II) can be included	
	IOT in medicine subject can be consider to include in the curriculum	
	3D Printing can also be included in any of the Course at least one unit	

2.If you have identified any specific skills, required for graduates of our branch/ department, to be imparted through the curriculum, please list them.

1. 3 D Printing

2. Dental Implants and Instruments can be included in the syllabus

3. May we request you to suggest some of the value-added courses; professional certification for those, industries will give preference during recruitment of freshers?

1. Medical Coding

2. Lab View

3. Matlab

4. Specify some industries, Research centers, R&D labs and reputed institutions either in India or Abroad for our faculty to visit and observe best practices.

1. Centre for Biomedical , IIT Delhi

2. Chithirai Thirunaal, Kerala

3. Capgemini Medical Division , Bangalore

5. Could you suggest some of innovative instructional (teaching) techniques to enhance students learning?

1. Its is better More Laboratory integrated courses

2. Virtual Medical equipment's operation

6. Could you mention professional certification, training programs to improve our faculty competency?

NPTEL Courses

Any other Comments:

The curriculum was well framed and interesting. Hope it will uplift the students knowledge. The outcome of this program to be in a Higher Level.

Its Better include some Advanced level Diploma courses or Any specialization courses apart from curriculum .

10.7.19

Signature

N.M.M 10/7/19

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School of Electrical & Communication

Department of Biomedical Engineering

FEEDBACK ON CURRICULUM

AY(2019-20)

1. **Name** : Karthik Raj V
2. **Position** : General Manager
3. **Organization** : TDAC Pvt Ltd
4. **Contact No.** 9677163469
5. **Email ID** : Karthikbiomedical@gmail.com

The curriculum of all the B.Tech programs of our university are developed from the Washington Accord Graduate attributes that clearly describe the expected qualities in terms of Engineering Knowledge and Skills, and attitude to be demonstrated by the students during exit of the programme, our curriculum and syllabus as well as we are preparing ourselves for adapting CBCS system.

The CBCS provides full flexibility for students to learn wide variety of courses such as Programme Core, Programme Electives and Value added courses. It allows the students to prepare various career options such as employment in engineering industries, IT industries, higher education in reputed institutions and career in research organizations.

We request you to go through our curriculum which is attached as annexure I and give your valuable suggestions to enrich the curriculum further.

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1. Are any specific/ New/ Advanced topics to be included to or removed from any of the Course(s)/ Subjects. If yes, please mention the topics to be included/ removed against each Course(s)/ Subjects as given in the following table.

Title of Course(s)/ subjects	Topics to be included	Topics to be removed
Nil		

2. If you have identified any specific skills, required for graduates of our branch/ department, to be imparted through the curriculum, please list them.

Knowledge regarding the standards and accreditation in the medical device sector, regulatory affairs, MDR India 2017

3. May we request you to suggest some of the value-added courses; professional certification for those, industries will give preference during recruitment of freshers?

Basic troubleshooting of medical devices (in collaboration with MNC, consider it as a 1 or 2 credit course)- ideally for 3rd year or four-year student.

4.Specify some industries, Research centers, R&D labs and reputed institutions either in India or Abroad for our faculty to visit and observe best practices.

AMTZ, National brain research centre, SCTIMST, Trivitron medical technology park

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5.Could you suggest some of innovative instructional (teaching) techniques to enhance students learning?

Including some practical sessions or live demos when trying to explain a particular concept.

6.Could you mention professional certification, training programs to improve our faculty competency?

Best portal will be AICTE Training And Learning (ATAL) Academy

Any other Comments: Nil

16/8/19

Signature

N.M.M 16/8/19

Dr. N.M. Masoodhu Banu
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Department of Biomedical Engineering

Faculty Feedback on Curriculum (2019 - 2020)

Name: Dr. K. Ganesh Lenin
ID No: TTS 2543
Designation: Assistant Professor
D.O.J: 8-6-19

S.No	Criteria	High	Medium	Low	NA
	Content – CO-PO- Compliance				
1	Course content is relevant to the course mapping	✓			
2	Course outcome contribution towards PO attainment	✓			
3	Course is relevant to the PSC	✓			
4	Course outcome levels are relevant to the course content	✓			
	Real World Problem Solving				
5	Course content demand usage of modern tools	✓			
6	Course content addresses current industry practice	✓			
7	Course content will serve for future industry practice		✓		
	Time Management				
8	Adequate time available to deliver content	✓			
9	Adequate time available to conduct Assessment	✓			
10	Students are attentive in class		✓		
	Innovation in TLP				
11	Provision to introduce new TLP method	✓			
12	Availability resources in internet	✓			
13	Availability of resources in local library			✓	
	Assessment				
14	All assessment questions are as per blooms taxonomy and CO level	✓			
15	Questions are relevant to CO	✓			
16	There is less/no deviation among internal and external question paper	✓			
	Curriculum Design				
17	BOS is taking care of Current and Relevance of the offering Programme	✓			
18	Employability skills are addressed in curriculum	✓			
19	Active participation in providing suggestions in curriculum design	✓			
20	Curriculum design methodology followed by department	✓			
21	The curriculum is updated regularly	✓			

Kindly provide suggestions to improve (Answers marked with Medium and Low)

→ More books have to be bought for library

→ Have to be more practice-focused by including courses accordingly

Signature

N.M.M
20/3/2020
Dr. N.M. Masoodhu Banu
HOD, Biomedical Engineering

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Department of Biomedical Engineering

Faculty Feedback on Curriculum (2019-2020)

Name: Dr. Thiyam Deepa Beeta
ID No: TTS ~~2704~~ 2872
Designation: Asst. Prof.
D.O.J: 1st June 2018

S.No	Criteria	High	Medium	Low	NA
	Content – CO-PO- Compliance				
1	Course content is relevant to the course mapping	✓			
2	Course outcome contribution towards PO attainment		✓		
3	Course is relevant to the PSC	✓			
4	Course outcome levels are relevant to the course content	✓			
	Real World Problem Solving				
5	Course content demand usage of modern tools		✓		
6	Course content addresses current industry practice	✓			
7	Course content will serve for future industry practice	✓			
	Time Management				
8	Adequate time available to deliver content	✓			
9	Adequate time available to conduct Assessment		✓		
10	Students are attentive in class		✓		
	Innovation in TLP				
11	Provision to introduce new TLP method	✓			
12	Availability resources in internet	✓			
13	Availability of resources in local library			✓	
	Assessment				
14	All assessment questions are as per blooms taxonomy and CO level	✓			
15	Questions are relevant to CO		✓		
16	There is less/no deviation among internal and external question paper		✓		
	Curriculum Design				
17	BOS is taking care of Current and Relevance of the offering Programme	✓			
18	Employability skills are addressed in curriculum	✓			
19	Active participation in providing suggestions in curriculum design	✓			
20	Curriculum design methodology followed by department	✓			
21	The curriculum is updated regularly	✓			

Kindly provide suggestions to improve (Answers marked with Medium and Low)

- can include more biomedical books in the library.
- can have projector in class for video presentation.

N.M.R
10/3/2020

Signature
10/3/2020

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Department of Biomedical Engineering

Students Feedback

Name: M SUBHIKSHA

ID No.: VTU 12891

Year: 2019-2020 (3rd, 4th Sem)

Batch: 2018-2022

S.No	Questions	High	Medium	Low	NA
1	How do you rate the syllabus of the courses that you have studied in relation to the competencies expected out of the course	✓			
2	How do you rate the allocation of the credits to the courses		✓		
3	Rate the size of the syllabus in terms of the load on the student	✓			
4	How do you rate the availability of course reference materials		✓		
5	How do you rate the course outcomes stated for each of the course	✓			
6	How do you rate the lab experiments designed for the respective course	✓			
7	How do you rate the time available for course preparation		✓		
8	How do you rate the facilities of the lab you performed for the respective course			✓	
9	Board of studies is taking care of Current and Relevance of the offering Programme	✓			
10	Active participation in providing suggestions in curriculum design	✓			
11	The curriculum is updated regularly	✓			

Kindly provide suggestions to improve (Answers marked with Medium and low)

2. Departmental Credits are provided high for Each Sem
4. Need some Materials available in library.
7. Internal Exams Can be Conducted after some revision of units.
8. Need few more Equipments & instruments.

SIGNATURE

Subhiksha

N.M.M

Dr N.M. Masoodhu Banu
HOD, Biomedical Engineering

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Department of Biomedical Engineering

Students Feedback

Name: Sushanto Das.

ID No.: 10324

Year: 2019-2020 (5th-6th Semester)

Batch: 2017-2021

S.No	Questions	High	Medium	Low	NA
1	How do you rate the syllabus of the courses that you have studied in relation to the competencies expected out of the course	✓			
2	How do you rate the allocation of the credits to the courses	✓			
3	Rate the size of the syllabus in terms of the load on the student	✓			
4	How do you rate the availability of course reference materials	✓			
5	How do you rate the course outcomes stated for each of the course	✓			
6	How do you rate the lab experiments designed for the respective course	✓			
7	How do you rate the time available for course preparation		✓		
8	How do you rate the facilities of the lab you performed for the respective course		✓		
9	Board of studies is taking care of Current and Relevance of the offering Programme	✓			
10	Active participation in providing suggestions in curriculum design			✓	
11	The curriculum is updated regularly		✓		
	Kindly provide suggestions to improve (Answers marked with Medium and low)				
7)	Time allocation for the course preparation was not enough because of Continuous exam				
8)	It was okay but need to add more equipments.				
10)	There was not discussion on this.				

Sushanto.
SIGNATURE

N.M.M

Dr. N.M. Masoodhu Banu
HOD, Biomedical Engineering

Vel Tech

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R&D Institute of Science and Technology

SCHOOL OF ELECTRONICS & COMMUNICATION ENGINEERING
DEPARTMENT OF BIOMEDICAL ENGINEERING
FEEDBACK ANALYSIS REPORT (CURRICULUM DEVELOPMENT)
AY 2018-19

S.No		Overall		
I Curriculum Design & Development		**A**	**D**	**Remarks For Improvement**
1	Updating current topics in BoS	88	12	Current topics will be included in next BoS
2	Employability weightage in BoS	96	4	
3	Opportunity to express comments in curriculum design	84	16	Being the first batch opportunity was less,No alumini was available
4	Methodology of curriculum design	93	7	Feedback with only four faculty.
5	Frequency of curriculum update	76	24	Students were not aware of frequency of curriculum update
II Improvement required in curriculum				
1	Students interest in pursuing course	80	20	Interest in Mathematics should be created among students
2	Time management for course offering	96	4	
3	Learning resource availability	84	16	Being the new department, resources will be added in step
4	Quality of lab experiments	92	8	Laboratory in the infrastructure will be estabilished independentaly for BME department
5	TLP practice improvements	93	7	The library resources has to be improved
Open feedback salient points(Comments received)				

Industry / Academic Expert	New topics needed / deleted	Engineering mechanics, Biomechanics, Medical Optics
	New skills required	FDA, Ultrasound, Safety ,MATLab, LABView
	Value added courses	AI for healthcare, LABView in biomedical engineering, Biomedical equipment techniques
	IV/Faculty visit	ICMR
	TLP technique	Project and problem based learning, Real time application based learning
	FDP for faculty	NPTEL, Industrial training

Action taken recommended:

1. Industry personel feebeck on corret market requirent from biomedical Engineers need to be collected - Dr. G. Saraya.
2. Students should be made aware of curriculam update
3. Library books list need to be collected & given to librarian (All Faculty)

N.M. [signature]
HOD 19/12/18

Members

1. R. Shelishiyah [signature] 19/12/18
2. Dr. Saranya [signature] 19.12.18
3. A. Padmanabha Sarma [signature] 19/12/18

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School of Electrical & Communication

Department of Biomedical Engineering

FEEDBACK ON CURRICULUM

AY (2018-2019)

1. **Name** : Dr K Venkatraman
2. **Position** : Technical Manager
3. **Organization** : Bio Vision Medical Systems, Chennai.
4. **Contact No.** : +91 9176132035
5. **Email ID** : venkat@biovisionchennai.com

The curriculum of all the B.Tech programs of our university are developed from the Washington Accord Graduate attributes that clearly describe the expected qualities in terms of Engineering Knowledge and Skills, and attitude to be demonstrated by the students during exit of the programme. Now we are in the process of updating our curriculum and syllabus as well as we are preparing ourselves for adapting CBCS system.

The CBCS provides full flexibility for students to learn wide variety of courses such as Programme Core, Programme Electives and Value added courses. The students have five degree choices in choosing the courses. (i) Faculty choice, (ii) Course choice within the program, (iii) Courses from other program/departments, (iv) Courses form International Universities, and (v) Courses from online courses from international universities such as Massachusetts Institute of Technology (MIT), USA, Harvard University, Berkeley University of California, The University of Texas System, Australian National University, The University of Queensland etc. This CBCS allows the students to prepare various career options such as employment in engineering industries, IT industries, higher education in reputed institutions and career in research organizations.

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We request you to go through our curriculum which is attached as annexure I and give your valuable suggestions to enrich the curriculum further.

1. Are any specific/ New/ Advanced topics to be included to or removed from any of the Course(s)/ Subjects. If yes, please mention the topics to be included/ removed against each Course(s)/ Subjects as given in the following table.

Title of Course(s)/ subjects	Topics to be included	Topics to be removed
Engineering Mechanics		
Biomechanics		

2. If you have identified any specific skills, required for graduates of our branch/ department, to be imparted through the curriculum, please list them.

MATLab, LABView

3. May we request you to suggest some of the value-added courses; professional certification for those, industries will give preference during recruitment of freshers?

Certified biomedical equipment technicians course-IPT,IV

4. Specify some industries, Research centers, R&D labs and reputed institutions either in India or Abroad for our faculty to visit and observe best practices.

ICMR

5. Could you suggest some of innovative instructional (teaching) techniques to enhance students learning?

Subject topics in line with real time applications

6. Could you mention professional certification, training programs to improve our faculty competency?

NPTEL

16.8.18

Signature

16/8/18

Dr. N.M. Masoodhu Banu
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School of Electrical & Communication

Department of Biomedical Engineering

FEEDBACK ON CURRICULUM

AY(2018-19)

1. **Name** : EDWIN SHANILA

2. **Position** : Assistant professor

3. **Organization** : SMK FOMRA Institute of Technology

4. **Contact No.** : 9884671267

5. **Email ID** : shanilabm08@gmail.com

The curriculum of all the B.Tech programs of our university are developed from the Washington Accord Graduate attributes that clearly describe the expected qualities in terms of Engineering Knowledge and Skills, and attitude to be demonstrated by the students during exit of the programme. Now we are in the process of updating our curriculum and syllabus as well as we are preparing ourselves for adapting CBCS svstem.

The CBCS provides full flexibility for students to learn wide variety of courses such as Programme Core, Programme Electives and Value added courses. The students have five degree choices in choosing the courses. (i) Faculty choice, (ii) Course choice within the program, (iii) Courses from other program/departments, (iv) Courses form International Universities, and (v) Courses from online courses from international universities such as Massachusetts Institute of Technology (MIT), USA, Harvard University, Berkeley University of California, The University of Texas System, Australian National University, The University of Queensland etc. This CBCS allows the students to prepare various career options such as employment in engineering industries, IT industries, higher education in reputed institutions and career in research organizations.

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We request you to go through our curriculum which is attached as annexure I and give your valuable suggestions to enrich the curriculum further.

1. Are any specific/ New/ Advanced topics to be included to or removed from any of the Course(s)/ Subjects. If yes, please mention the topics to be included/ removed against each Course(s)/ Subjects as given in the following table.

Title of Course(s)/ subjects	Topics to be included	Topics to be removed
Medical Optics	Optical properties of the tissues	
Medical Optics	Instrumentation in photonics	
Medical Optics	Applications of lasers & Optical Tomography	
Medical Optics	Special optical techniques	

2. If you have identified any specific skills, required for graduates of our branch/ department, to be imparted through the curriculum, please list them.

1. Food and Drug administration (FDA)
2. Ultrasound
3. Safe experimentation

3. May we request you to suggest some of the value-added courses; professional certification for those, industries will give preference during recruitment of freshers?

- Applications of LabView in Bio medical engineering
- AI for health care

4. Specify some industries, Research centers, R&D labs and reputed institutions either in India or Abroad for our faculty to visit and observe best practices.

NIL

5. Could you suggest some of innovative instructional (teaching) techniques to enhance students learning?

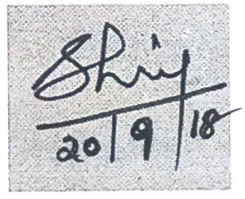
1. Project based learning
2. Problem based learning
3. Experimental teaching

6. Could you mention professional certification, training programs to improve our faculty competency?

- NPTEL online courses
- Industrial training
- Robotics training programs

Any other Comments:

NIL



Signature

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Department of Biomedical Engineering

Faculty Feedback on Curriculum (2018 – 2019)

Name: R. Shelishyah
ID No: TTS 2422
Designation: Assistant Prof.
D.O.J: 10/4/2017

S.No	Criteria	High	Medium	Low	NA
	Content – CO-PO- Compliance				
1	Course content is relevant to the course mapping	✓			
2	Course outcome contribution towards PO attainment	✓			
3	Course is relevant to the PSC		✓		
4	Course outcome levels are relevant to the course content	✓			
	Real World Problem Solving				
5	Course content demand usage of modern tools		✓		
6	Course content addresses current industry practice		✓		
7	Course content will serve for future industry practice			✓	
	Time Management				
8	Adequate time available to deliver content	✓			
9	Adequate time available to conduct Assessment	✓			
10	Students are attentive in class	✓			
	Innovation in TLP				
11	Provision to introduce new TLP method		✓		
12	Availability resources in internet	✓			
13	Availability of resources in local library			✓	
	Assessment				
14	All assessment questions are as per blooms taxonomy and CO level	✓			
15	Questions are relevant to CO	✓			
16	There is less/no deviation among internal and external question paper		✓		
	Curriculum Design				
17	BOS is taking care of Current and Relevance of the offering Programme	✓			
18	Employability skills are addressed in curriculum	✓			
19	Active participation in providing suggestions in curriculum design	✓			
20	Curriculum design methodology followed by department	✓			
21	The curriculum is updated regularly	✓			

Kindly provide suggestions to improve (Answers marked with Medium and Low)

Related books can be provided

N.M.R

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Department of Biomedical Engineering

Faculty Feedback on Curriculum (2018 - 2019)

Name: A. Padmanabha Sarma
ID No: TTs 2660
Designation: Asst. Professor
D.O.J: 26/10/2019

S.No	Criteria	High	Medium	Low	NA
	Content – CO-PO- Compliance				
1	Course content is relevant to the course mapping	✓			
2	Course outcome contribution towards PO attainment	✓			
3	Course is relevant to the PSC		✓		
4	Course outcome levels are relevant to the course content	✓			
	Real World Problem Solving				
5	Course content demand usage of modern tools		✓		
6	Course content addresses current industry practice	✓	✗		
7	Course content will serve for future industry practice		✓		
	Time Management				
8	Adequate time available to deliver content		✓		
9	Adequate time available to conduct Assessment		✓		
10	Students are attentive in class		✓		
	Innovation in TLP				
11	Provision to introduce new TLP method	✓			
12	Availability resources in internet	✓			
13	Availability of resources in local library		✓		
	Assessment				
14	All assessment questions are as per blooms taxonomy and CO level	✓			
15	Questions are relevant to CO		✓		
16	There is less/no deviation among internal and external question paper		✓		
	Curriculum Design				
17	BOS is taking care of Current and Relevance of the offering Programme	✓			
18	Employability skills are addressed in curriculum	✓			
19	Active participation in providing suggestions in curriculum design	✓			
20	Curriculum design methodology followed by department		✓		
21	The curriculum is updated regularly	✓			
Kindly provide suggestions to improve (Answers marked with Medium and Low)					

A. Padmanabha Sarma
Signature

N.M.M

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High - Good
Medium - Normal
Low - Poor

Department of Biomedical Engineering

Students Feedback

Name: Lasngewhem Mawblei

ID No.: 10878

Year: 2018 - 2019 (3rd sem - 4th sem)

Batch: 2017 - 2021

S.No	Questions	High	Medium	Low	NA
1	How do you rate the syllabus of the courses that you have studied in relation to the competencies expected out of the course	✓			
2	How do you rate the allocation of the credits to the courses	✓			
3	Rate the size of the syllabus in terms of the load on the student	✓			
4	How do you rate the availability of course reference materials	✓			
5	How do you rate the course outcomes stated for each of the course	✓			
6	How do you rate the lab experiments designed for the respective course		✓		
7	How do you rate the time available for course preparation	✓			
8	How do you rate the facilities of the lab you performed for the respective course		✓		
9	Board of studies is taking care of Current and Relevance of the offering Programme	✓			
10	Active participation in providing suggestions in curriculum design			✓	
11	The curriculum is updated regularly		✓		
	Kindly provide suggestions to improve (Answers marked with Medium and low)				
6.	Because some experiments are not related with what we studied.				
8.	Medium - because at that time, no lab of our own department.				
10.	Because we are not allow to participate in the discussion.				

SIGNATURE

N.M.B

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High - Good
Medium - Normal
Low - Poor

Department of Biomedical Engineering

Students Feedback

Name: MD. Azaharuddin Ansari

ID No.: 10493

Year: 2018-2019 (3rd-4th semester)

Batch: 2017-2021

S.No	Questions	High	Medium	Low	NA
1	How do you rate the syllabus of the courses that you have studied in relation to the competencies expected out of the course	✓			
2	How do you rate the allocation of the credits to the courses	✓			
3	Rate the size of the syllabus in terms of the load on the student	✓			
4	How do you rate the availability of course reference materials	✓			
5	How do you rate the course outcomes stated for each of the course	✓			
6	How do you rate the lab experiments designed for the respective course	✓			
7	How do you rate the time available for course preparation	✓			
8	How do you rate the facilities of the lab you performed for the respective course		✓		
9	Board of studies is taking care of Current and Relevance of the offering Programme	✓			
10	Active participation in providing suggestions in curriculum design			✓	
11	The curriculum is updated regularly		✓		
	Kindly provide suggestions to improve (Answers marked with Medium and low) 8. As we were first batch all the lab facilities were not available. 10. There was no discussion happened as such.				

Azaharuddin Ansari
SIGNATURE

N.M.M

Dr. N. M. Masoodhu Banu
HOD, Biomedical Engineering

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