



हरकोर्ट बटलर प्राविधिक विश्वविद्यालय

नवाबगंज, कानपुर – 208002, उ.प्र., भारत

HARCOURT BUTLER TECHNICAL UNIVERSITY

NAWABGANJ, KANPUR - 208002, U.P., INDIA

(Formerly Harcourt Butler Technological Institute, Kanpur)

Phone : +91-0512-2534001-5, 2533812, website : <http://www.hbtu.ac.in>, Email : vc@hbtu.ac.in

100 YEARS
1921 - 2021

1.4.1 Structured feedback for design and review of the syllabus – semester-wise / year-wise is received from

- 1) Students,**
- 2) Teachers,**
- 3) Employers,**
- 4) Alumni**
- 5) Parents for design and review of syllabus Semester-wise/year wise**

Options:

- A. All 4 of the above**
- B. Any 3 of the above**
- C. Any 1 of the above**
- D. None of the above**

Response: A

(Anand Kumar)
Dean of Academic Affairs



हरकोर्ट बटलर प्राविधिक विश्वविद्यालय

नवाबगंज, कानपुर - 208002, उ.प्र., भारत

HARCOURT BUTLER TECHNICAL UNIVERSITY

NAWABGANJ, KANPUR - 208002, U.P., INDIA

(Formerly Harcourt Butler Technological Institute, Kanpur)

Phone : +91-0512-2534001-5, 2533812, website : <http://www.hbtu.ac.in>, Email : vc@hbtu.ac.in

100 YEARS
1921 - 2021

Feedback collection and analysis summary

A) Students

The practice of student feedback has been prevalent in the university (erstwhile HBTI Kanpur) since the year 2006 or so. However, the format has been modified since the reconstitution of the HBTI Kanpur into a university. The Dean (CE&IQA) is entrusted with the responsibility of devising a feedback mechanism, executing the same, and finally analyzing as well. The feedback involves a questionnaire to be filled by students for giving feedback on a course teaching so as to strengthen the quality of the teaching-learning environment. It contains 25 attributes on which the student has to rate the teaching of a particular course. Annexure 1 presents the feedback format adopted by the university. As seen from the format, it is evident that it has 25 items/attributes which are to be rated on a scale of 1 to 5 *where 5-Excellent; 4-very good; 3-good; 2-average; 1 –poor. In addition to these 25 attributes, the questionnaire also has four questions in the narrative where the student has to suggest/write about the course teaching. Since this feedback is about the “Design and Review of Syllabus” only, the following two questions were focused. These are:*

- i) *What do you like best about this course?*
- ii) *What would you like to change about this course?*

In a way, the questionnaire will give the student's satisfaction level at the end of the course so that improvement, if needed can be done. In order to ensure true feedback, only those students with **attendance more than 75% are** asked to fill the feedback format. The feedback is taken in a manner so as to ensure that the students give their feedback/rating without any apprehension so that improvement in teaching if any can be made. Once the feedback is taken at the end of the course, it's analysis is carried out by the Dean (CE&IQA) and results/findings of the same are sent to the concerned Head of Department for taking corrective actions, if needed.

B) Feedback Analysis process

Broadly speaking two types of analysis are carried out qualitative and quantitative.

Qualitative Analysis

This involves observing the general rating (in terms of poor, average, good, very good, and excellent) for all the 25 attributes/items given by all the students for a particular course taught by a teacher is noted. This rating is communicated to the concerned head of the concerned department for further necessary action at his end. Specific suggestions/comments given by students are also included in this analysis.

Quantitative Analysis

For each of the 25 attributes/items, the average rating of all the students/respondents is calculated. Once the average of each of the attributes for the whole class is obtained, their further average value is taken. This average rating represents the feedback of all the attributes of the whole class for that particular course and teacher.

The calculation carried out at a) and b) above along with the qualitative analysis was sent to the concerned head of the department with a request to communicate the same to the concerned teachers. The feedback is communicated in a manner that no teacher feels offended and takes the feedback/suggestions in a constructive and positive manner. No punitive action is taken against any teacher because of any shortcomings/adverse feedback. This helps the teacher to incorporate the suggestions if any in the subsequent semesters.

C) Alumni

The feedback is collected from Alumni. The feedback involves a questionnaire to be filled by Alumni for giving feedback on a overall view on program so as to strengthen the quality of the teaching-learning environment. It contains 15 attributes on which the alumni has to rate the syllabus of a particular course. Annexure 2 presents the feedback format adopted by the university. As seen from the format, it is evident that it has 15 items/attributes which are to be rated on a scale of 1 to 5 *where 5-Excellent; 4-very good; 3-good; 2-average; 1 –poor. In addition to these 25 attributes, the questionnaire also has four questions in the narrative where the alumni has to suggest/write about the syllabus. Since this feedback is about the “Design and Review of Syllabus” only, the following two questions were focused. These are:*
In your opinion, what are we doing well and in what areas do we need to improve?
Any additional feedback that you would like to offer?

D) Employer

The feedback is collected from Employer. The feedback involves a questionnaire to be filled by Employer for giving feedback on over all view on program so as to strengthen the quality of the teaching-learning environment. It contains 13 attributes on which the employer has to rate the program. Annexure 2 presents the feedback format adopted by the university. As seen from the format, it is evident that it has 15 items/attributes which are to be rated on a scale of 1 to 5 *where 5-Excellent; 4-very good; 3-good; 2-average; 1 –poor. In addition to these 25 attributes, the questionnaire also has four questions in the narrative where the Employer has to suggest/write about the course teaching. Since this feedback is about the “Design and Review of Syllabus” only, the following two questions were focused. These are:*
In your opinion, what are we doing well and in what areas do we need to improve?
Is there any additional feedback that you would like to offer?

E) Teachers

The feedback is collected from Teachers. The feedback involves a questionnaire to be filled by teacher for giving feedback on a course taught by him or her so as to strengthen the quality of the teaching-learning environment. It contains 15 attributes on which the teacher has to rate the course structure and syllabus of a particular course. Annexure 2 presents the feedback format adopted by the university. As seen from the format, it is evident that it has 15 items/attributes which are to be rated on a scale of 1 to 5 *where 5-Excellent; 4-very good; 3-good; 2-average; 1 –poor. In addition to these 25 attributes, the questionnaire also has four questions in the*

narrative where the teacher has to suggest/write about the course teaching. Since this feedback is about the “Design and Review of Syllabus” only, the following two questions were focused. These are:

In your opinion, what are areas do we need to add into the curriculum to improve?

What would you like to change in course structure?

Any additional feedback that you would like to offer?

Action taken reports are attached below



हरकोर्ट बटलर प्राविधिक विश्वविद्यालय

नवाबगंज, कानपुर - 208002, उ.प्र., भारत

HARCOURT BUTLER TECHNICAL UNIVERSITY

NAWABGANJ, KANPUR - 208002, U.P., INDIA

(Formerly Harcourt Butler Technological Institute, Kanpur)

Phone : +91-0512-2534001-5, 2533812, website : <http://www.hbtu.ac.in>, Email : vc@hbtu.ac.in

100 YEARS
1921 - 2021

Department of Chemical Engineering

Feedback analysis and Action take report of B.Tech (2017-18)

Feedback analysis	Action Taken
1. The number of lecture hours was high in most of the courses.	<ul style="list-style-type: none">• The 4-credit course (3 1 0) “Mechanical Operations” in Semester III is renamed to a 3-credit (3 0 0) course “Particle and Fluid Particle Processing” in Semester III.• The 4-credit course (3 1 0) “Process Design and Economics” in Semester VII is renamed to a 3-credit (2 1 0) “Plant Design and Economics” and shifted in Semester VI• The 4-credit course (3 1 0) “Chemical Process Utility” in Semester IV is renamed to a 3-credit (3 0 0) course “Process Utility” in Semester IV.• The 4-credit course (3 1 0) “Process Optimization” in Semester VI is renamed to a 3-credit (3 0 0) course “Operation Research” in Semester IV.• The single 4-credit course (3 1 0) “Chemical Engineering Thermodynamics” is converted into two separate courses: 3-credit (3 0 0) course “Chemical Engineering Thermodynamics-I” in Sem IV and 4-credit course (3 1 0) “Chemical Engineering Thermodynamics-II” in Semester V.• The single 4-credit course (3 1 0) on “Instrumentation and Process Control” in Sem V is converted into two separate courses: 3-credit (3 0 0) course “Process Instrumentation” in Semester V and 3-credit (2 1 0) “Process Control” in Semester VI.• The 4-credit course (3 1 0) “Computer Oriented Numerical Method” in Semester IV and 2 credit lab “Numerical Techniques Lab” (0 0 3) in Semester IV are combined to a single 4 credit course (3 0 3) “Computer Oriented Numerical Methods” in Semester IV.• The 4-credit lab (0 0 3) “Instrumentation and Process Control Lab” in Semester VI and 4-credit lab (0 0 3) “Chemical Reaction Engineering Lab” in Semester VI are combined into a single 2-credit lab (0 0 4) “Reaction Engineering & Instrumentation Control Lab” in Semester VI.• The 4-credit course “Industrial Pollution Control and Waste Management” in Sem IV is moved from compulsory to Elective IV• The 4-credit course “Chemical Process Safety and Risk Assessment” in Sem V is moved from compulsory to Elective I• The 4-credit course “Energy Resource and Energy Conservation” in Sem VIII is moved from compulsory to Elective IV• A 3-credit course “Organizational Behavior” is added in Sem III• A zero-credit course “Indian Constitution” is added in Sem IV• The zero credit courses “General Proficiency” in Sem III to Sem VIII are removed as “Professional Communication” and “English Language and

	<p>Composition” are already there in Semester II.</p> <ul style="list-style-type: none"> • Two Lab courses: 2 credit (0 0 4) lab “Chemical Engineering Lab -I” in Sem III and 2 credit lab (0 0 4) “Chemical Engineering Lab -II” in Sem IV are added in place of 4 credit (0 0 3) lab “Applied Chemistry Lab”, and 4 credit (0 0 3) lab “Fluid Flow and Mechanical Operations Lab” and 4 credit (0 0 3) lab “Heat Transfer Operation Lab”. • The load hours of Project in Sem VII are increase from (0 0 6) to (0 0 8) with same number of credits. • The load hours of Project in Sem VIII are increase from (0 0 6) to (0 0 20) with increased credit from 8 to 10. 			
<p>2. Basic chemical engineering courses should be taught in earlier semesters</p>	<p>S No</p>	<p>new entrants starting in academic session 2014-15</p>	<p>new entrants starting in academic session 2017-18</p>	
1		Mass Transfer Operations-I	V	IV
2		Mass Transfer Operations-II	VI	V
3		Heat Transfer Operations	IV	III
4		Engineering Economics and Management	VIII	IV
5		Cyber Security	IV	III
6		Transport Phenomena	VII	VI
7		Modern Analytical Tools	III	IV
		Seminar	VI	VII



हरकोर्ट बटलर प्राविधिक विश्वविद्यालय

नवाबगंज, कानपुर - 208002, उ.प्र., भारत

HARCOURT BUTLER TECHNICAL UNIVERSITY

NAWABGANJ, KANPUR - 208002, U.P., INDIA

(Formerly Harcourt Butler Technological Institute, Kanpur)

Phone : +91-0512-2534001-5, 2533812, website : <http://www.hbtu.ac.in>, Email : vc@hbtu.ac.in

100 YEARS
1921 - 2021

Department of Chemical Engineering

Feedback analysis and Action take report of M.Tech (2017-18)

Feedback analysis	Action Taken							
	New entrants starting in academic session 2014-15				New entrants starting in academic session 2017-18			
	CT	TA	End Sem	Total	CT	TA	End Sem	Total
1. The evaluation scheme should be continuous	30	20	100	150	30	20	50	100
2. The lecture hours of seminar should be increased.	• The credits of seminar in semester III are reduced from 4 credits to 2 credits for the new entrants starting in academic session 2017-18. The practical hours for the seminar are increased from 2 hours to 4 hours.							
3. A course on Design and Simulation should be added	• 2 credits of Design and Simulation lab is added in semester III for the new entrants starting in academic session 2017-18							
4. The credit system and marks distribution for Project should be improved	• The marks of Dissertation in semester III have been increased to 100 marks (20% of total marks of Semester III) from 50 marks (11% of total marks of Semester III). The credits of dissertation have been reduced from 16 credits to 12 credits while the practical hours have been increased from 18 hours to 24 hours.							



हरकोर्ट बटलर प्राविधिक विश्वविद्यालय

नवाबगंज, कानपुर - 208002, उ.प्र., भारत

HARCOURT BUTLER TECHNICAL UNIVERSITY

NAWABGANJ, KANPUR - 208002, U.P., INDIA

(Formerly Harcourt Butler Technological Institute, Kanpur)

Phone : +91-0512-2534001-5, 2533812, website : <http://www.hbtu.ac.in>, Email : vc@hbtu.ac.in

100 YEARS
1921 - 2021

Department of Chemical Engineering

Feedback analysis and Action take report of B.Tech (2018-2019)

Feedback analysis	Action Taken
1. The lab and theory courses should be combined for a better and synchronized understanding of the concepts	The labs have been combined with the theory course in the following Courses: <ul style="list-style-type: none">• Chemical Engineering Fluid Mechanics - TCH 25• Particle & Fluid Particle Processing - TCH 253• Process Heat Transfer - TCH 255• Chemical Process Calculations - TCH 257• Mass Transfer Operations I TCH 234• Chemical Process Utilities TCH 256• Computer Aided Equipment Design - TCH 351• Chemical reaction Engineering-I - TCH353• Mass Transfer Operations-II - TCH 355• Chemical Technology - TCH 359• Process Control & Instrumentation TCH 354
2. The course on plant safety should be taught as a compulsory course.	Plant safe & Environmental Aspects - TCH360 have been introduced
3. An understanding of Material Science is a must for chemical engineers.	Material Science & Engineering - TCH 362 have been introduced
4. A course on Process Modelling & Simulation should be introduced	Process Modelling & Simulation TCH 451 have been introduced
5. The flexibility in the selection of electives should be increased by increasing the number of electives according to the changing need of the chemical industry.	Following new elective courses have also been introduced <ul style="list-style-type: none">• Electrochemical Technology TCH 459• Petroleum Refining & Petrochemical Technology TCH 461• Bio System Process TCH 465• Management of R&D TCH 467• Advanced Chemical Process Control TCH 454• Conceptual Design of Chemical Processes



हरकोर्ट बटलर प्राविधिक विश्वविद्यालय

नवाबगंज, कानपुर - 208002, उ.प्र., भारत

HARCOURT BUTLER TECHNICAL UNIVERSITY

NAWABGANJ, KANPUR - 208002, U.P., INDIA

(Formerly Harcourt Butler Technological Institute, Kanpur)

Phone : +91-0512-2534001-5, 2533812, website : <http://www.hbtu.ac.in>, Email : vc@hbtu.ac.in

100 YEARS
1921 - 2021

Department of Electronics Engineering

Feedback analysis and Action take report of B.Tech (2017-18)

Feedback analysis	Action Taken
1. The course structure of the B.Tech. Electronics Engineering should be same as for all other branches of the university	A revision in the course structure and in syllabus of ETD subject was done in last two BOS meeting that was held on 2018 and 2020. The following changes that is given below is carried out.
2. Syllabus of subjects should include topics so that students get inclined towards current technologies, innovation and entrepreneurship.	Following points were changed (for syllabus of EET-101/102): <ul style="list-style-type: none">• Topics: modern display technique- OLED, AMOLED, PDP, QLED displays" must be incorporated in Unit –V.• Behzad Razavi "Fundamentals of Microelectronics" Wiley added as reference book.
3. Syllabus of subjects should be oriented towards competitive exams such as IES, GATE, UPPSC, PSU etc.	Following points were changed for syllabus of II B. Tech. ET subjects <ul style="list-style-type: none">• In the EMFT subject, the reference book of David K. Cheng included in the text book section.• The subject Analog Electronics or Analog Circuits taught in the 5th Semester• The subject Control System is included in the 6th semester.• Addition of FDSOI and PDSOI in the syllabus of Solid state devices.• The effect of poles and zeros in negative feedback added in the 3rd unit of subject Analog Circuits.• Addition the books by Allen and Holberg, Razavi and the lecture series by Razavi for the subject Analog Circuits.• Addition of small signal analysis and large signal analysis (π model) etc. in the subject Analog Circuits.• The topic of Impedance and gain analysis of amplifier is added in the subject of Analog Circuits.
4. The syllabus, seminar and project topics should be oriented towards industry related problems	Following points were changed for syllabus of III B. Tech. ET subjects <ul style="list-style-type: none">• ANALOG COMMUNICATION syllabus include the Analog communication Circuits (Transmitter and receiver circuit), Intermediate Frequency, Double Heterodyne Receiver and Analog receiver.• ANALOG COMMUNICATION Experiment list include

the transmitter and receiver experiments (no Kit base experiment, students need to prepare their transmitting and receiver circuit by themselves in Lab)

- In the ANTENNAS AND WAVE PROPOGATION syllabus “Antenna Principles” sections include Parabolic and loop antenna along with Horn antenna, Patch antenna.
- In the ANTENNAS AND WAVE PROPOGATION syllabus should contain Retarded potential, linear and binomial array, Return Loss of antenna
- “Antenna Theory Analysis and Design, by C. A. Balanis” included in the TEXT book list of ANTENNAS AND WAVE PROPOGATION.
- MICROPROCESSOR subject is renamed as MICROPROCESSOR & MICROCONTROLLER.
- MICROPROCESSOR syllabus contain AMR process (30% - 50% of the course), small portion of the 8051 microcontroller can be the there in the ARM section.
- MICROPROCESSOR syllabus contain cross compiler, RISC processor
- MICROPROCESSOR experiments list include sufficient amount of ARM based experiments
- OPTOELECTRONICS is replaced by the OPTICAL COMMUNICATION & SWITCHING NETWORK Subject with credit distribution of C(L-T-P) : 4(2-1-2)
- DIGITAL COMMUNICATION credit distribution as C(L-T-P) : 3(2-0-2).
- In CONTROL SYSTEM Syllabus include in “State variable Analysis” section, the Kalman Base Control.

Following points were changed for syllabus of IV B. Tech. ET subjects

- Change in name from, Radar and Microwave Engg. to Microwave and Radar Engg.” was suggested for better clarity. In the MICROWAVE AND RADAR ENGINEERING syllabus following topics are added in syllabus also.
- S-parameters
- Microstrip Line
- Cyclotrons, directional coupler
- T-junctions
- Radar imaging
- High Power Devices
- Microwave filters
- In PEC-II (Elective –II) the subject of „COMPUTER NETWORKS“ is replaced by subject “DATA COMMUNICATION NETWORKS” .
- include the topic of “Kalman Filtering” concept in ARTIFICIAL INTELLIGENCE Syllabus.
- Weightage of MOSFET must be embedded in Unit-II for its industrial prospects.



हरकोर्ट बटलर प्राविधिक विश्वविद्यालय

नवाबगंज, कानपुर - 208002, उ.प्र., भारत

HARCOURT BUTLER TECHNICAL UNIVERSITY

NAWABGANJ, KANPUR - 208002, U.P., INDIA

(Formerly Harcourt Butler Technological Institute, Kanpur)

Phone : +91-0512-2534001-5, 2533812, website : <http://www.hbtu.ac.in>, Email : vc@hbtu.ac.in

100 YEARS
1921 - 2021

Department of Leather Technology

Feedback analysis and Action take report of B.Tech (2017-18)

Feedback analysis	Action Taken
1. The course structure of the B.Tech. Leather Technology should be same as for all other branches of the university	Restructuring of course structure <ul style="list-style-type: none">Some courses were made as compulsory subjects and shifted to previous semester so that students could have better understanding of the subjects<ul style="list-style-type: none">AMLM shifted from 5th semester to 4th semesterProcessing of Leather-I shifted from 6th semester to 5th semesterProcessing of Leather-II shifted from 7th semester to 6th semester
2. Some important subjects should be compulsory not as electives like Leather Microscopy and Skin Pre-tannages; Processing of Leather; Organic and Inorganic Tannages; Leather Trade Engineering; Tannery Effluent Treatment; Professional Area of Leather Technology.	Restructuring Electives <ul style="list-style-type: none">Some Program Electives were made compulsory<ul style="list-style-type: none">Leather Auxiliaries TechnologyLeather Trades EngineeringOrganic Tannages
3. Merger of labs has reduced the practical content and at least few labs should be as separate chapters	New laboratories were introduced as separate subjects <ul style="list-style-type: none">Leather Microscopy and Skin Pretannages Lab was introduced in the 3rd Semester and the 6th module was deleted from Leather Microscopy and Skin PretannagesProcessing of Leather-I Lab was introduced in the 5th Semester and 6th module of Processing of Leather remain as it in the Syllabus.
4. The syllabus, seminar and project topics should be oriented towards industry related problems	The syllabus Modification <ul style="list-style-type: none">Leather Microscopy and Skin Pretannages (TLT-201)<ul style="list-style-type: none">The two separate subjects Leather Microscopy & Bacteriology and Skin Pre-tannages respectively, were

	<p>merged in to new subject Leather Microscopy and Skin Pre-tannages. Accordingly articulation matrix was changed. Composition of Hides and Skins; General and physical chemistry of proteins; Reactive groups in collagen; Pre-tanning process.</p> <ul style="list-style-type: none"> • Leather Microscopy and Skin Pretannages (TLT-201) <ul style="list-style-type: none"> ○ The sixth module was removed from the syllabus as LMSP lab has been included as a separate subject. Accordingly articulation matrix was changed. • Professional Area of Leather Technology (TLT-403) <ul style="list-style-type: none"> ○ A new course was incorporated in 7th Semester i.e., Professional Area of Leather Technology. This Subject included the Utilization of Leather by products and Effluent Treatments and its Management. • Leather Trades Engineering (TLT401) <ul style="list-style-type: none"> ○ This subject was made as a compulsory from Electives and shifted from 8th Semester to 7th Semester • Common Changes <ul style="list-style-type: none"> ○ The articulation matrix of all the subjects were reviewed and was modified ○ accordingly. The level of Bloom's Taxonomy was reviewed and modified accordingly
<p>5. Syllabus of subjects should include topics so that students get inclined towards innovation and entrepreneurship</p> <p>6. Syllabus of subjects should be oriented towards competitive exams such as IES, GATE, UPPSC, PSU etc</p>	<p>The syllabus Modification</p> <ul style="list-style-type: none"> • Polymer Chemistry (TPL 201) <ul style="list-style-type: none"> ○ The sixth module was removed from the syllabus as Polymer Chemistry lab has been included as a separate subject ○ Accordingly articulation matrix was changed ○ Concept of functionality, characteristic properties and uses of polymers, application of copolymerization • Rheology and Testing of Polymers (TPL 303) <ul style="list-style-type: none"> ○ The sixth module was removed from the syllabus as Polymer Testing lab

has been included as a separate subject.

- Accordingly articulation matrix was changed. Average level of relevance for PO2 and PO3 was increased to 2.5 from 1.8 and 1.2 for PO7 from 1.0
- **Polymer Processing-I (TPL-301)**
 - A new module was added to add experiments and credit was distributed accordingly
 - Accordingly articulation matrix was changed
- **Polymerization Engineering-I (TPL-202)**
 - A new module was added to add experiments and credit was distributed accordingly
 - i.e.3 theory classes, one tutorial and one for practical.
 - Accordingly articulation matrix was changed
 - Problems related to polymerization, measurement and control in polymerization was
 - included in the syllabus
 - Commercially important copolymers were introduced
- **Technology of Elastomers (TPL407)**
 - This subject was made as a compulsory and shifted from Electives
 - In 4th module the content of Thermoplastic Elastomers has been increased
 - Articulation matrix was modified
- **Common Changes**
 - The articulation matrix of all the subjects were reviewed and was modified accordingly
 - The level of Bloom's Taxonomy was reviewed and modified accordingly



हरकोर्ट बटलर प्राविधिक विश्वविद्यालय

नवाबगंज, कानपुर - 208002, उ.प्र., भारत

HARCOURT BUTLER TECHNICAL UNIVERSITY

NAWABGANJ, KANPUR - 208002, U.P., INDIA

(Formerly Harcourt Butler Technological Institute, Kanpur)

Phone : +91-0512-2534001-5, 2533812, website : <http://www.hbtu.ac.in>, Email : vc@hbtu.ac.in

100 YEARS
1921 - 2021

Department of Oil Technology

Feedback analysis and Action take report of B.Tech (2017-18)

Feedback analysis	Action Taken
1. Outcome based education system of AICTE should be implemented	<p>Outcome Bases Education System</p> <ul style="list-style-type: none">On the basis of observation and suggestions through feedback of employer and teachers the B.Tech program curriculum has been restructured and modified as per AICTE guidelines for transforming it to Outcome based Education System. This was also required for the NBA accreditation. For this following changes were done<ul style="list-style-type: none">Program Educational objectives were framedProgram Specific Outcomes were framedPEO and PSO are mapped with Missions of the departmentThe Course outcomes of all subjects were framed and mapped with the ProgramOutcomes<ul style="list-style-type: none">The Bloom's Taxonomy levels were also assigned to CO of all subjectsThe evaluation scheme and lecture plan were also included in syllabusA detailed lecture plan was prepared to help the teachers and students for better understanding <p>Restructuring of course structure</p> <ul style="list-style-type: none">Some courses were shifted to from one semester to another so that students could have better understanding of the subjectsExpression and Extraction Techniques of Oil Bearing Materials shifted from 4th semester to 5th semesterCommerce and Process Economics; Food Safety and Environmental Aspects of Oil Industry shifted from 5th semester to 7th semesterEssential oils & cosmetics shifted from 8th semester to 6th semester
2. Theory and laboratory classes of same subjects should be synchronized and taught in the same semester	<p>Synchronization of Lab courses with theory</p> <ul style="list-style-type: none">Oil Characterization Lab (IOT 351) merged with related theory subject Chemistry of Oils & Allied Products in the 3rd Semester.Oil and Oilseed analysis lab (IOT 451) merged with related theory subject Sources, Composition, Characterization of Oils, Fats and Waxes TOT 202 in the 4th semester

	<ul style="list-style-type: none"> • Analysis of Soap Products (IOT 551) merged with related theory subject Technology of Soaps and Fat Splitting in the 5th semester • Oils and Allied Products Formulation Lab (IOT 552) shifted from 5th to 6th semester and merged with related theory Subject Essential Oils & Cosmetics • Detergent Products Preparation and Analysis Lab (IOT 651) merged with related theory subject Quality Assurance of Oils and Allied Products in 6th Semester • Oil Processing Lab -2 (IOT 751) merged with related theory subject Hydrogenation and Modification of Oils in 7th Semester
<p>3. More flexibility should be given in curriculum to choose subjects of choice from the basket of electives</p>	<p>Restructuring Electives</p> <ul style="list-style-type: none"> • Four Program Electives were introduced instead of one and some courses were included in electives instead of being a compulsory subjects • Advance Oil Chemistry and Oleochemicals • Biotechnology of Oilseeds and Oils
<p>4. The syllabus, seminar and project topics should be oriented towards industry related problems</p> <p>5. Syllabus of subjects should include topics so that students get inclined towards innovation and entrepreneurship</p>	<p>Research Project</p> <ul style="list-style-type: none"> • It was decided to incorporate new research oriented industry based project entitled Project On Industrial Assignment IOT 802 in VIII semester. It was also decided to select topics of seminar based on environmental issues, global matters for sustainable development. <p>The syllabus Modification</p> <ul style="list-style-type: none"> • Chemistry of Oils & Allied Products (TOT 201) <ul style="list-style-type: none"> ○ The syllabus was restructured in six modules ○ Production & consumption Statics of area un cultivation and oil Production in the Country vis-à-world was added in Module I. ○ All the experiments of Oil Characterization Lab were included in sixth module for laboratory Experiments • Sources, Composition, Characterization of Oils, Fats and Waxes TOT 202 <ul style="list-style-type: none"> ○ The syllabus was restructured in six module ○ All the experiments of Oil and Oilseed analysis lab were included in sixth module for laboratory Experiments. • Expression and Extraction Techniques of Oil Bearing Materials TOT 301 <ul style="list-style-type: none"> ○ The syllabus was restructured in five modules. ○ Delinting (for cotton seeds) fruit processing for oil recovery, processing of palm & coconut and bye products was added in module I & II respectively. • Technology Of Soaps & Fat Splitting TOT-303 <ul style="list-style-type: none"> ○ The syllabus was restructured in six modules. ○ All the experiments of Analysis of Soap Products Lab were included in sixth module for laboratory Experiments

	<ul style="list-style-type: none">• Quality Assurance of Oils and Allied Products TOT-304<ul style="list-style-type: none">○ The syllabus was restructured in Six modules○ All the experiments of Detergent Products Preparation and Analysis Lab were included in sixth module for laboratory Experiments.• Commerce and Process Economics; Food safety and Environmental aspects of Oil Industry<ul style="list-style-type: none">○ The new syllabus is split in to 5 modules.○ In Module-I: GST and import/export duty structure for oilseeds, oils – crude and refined, edible as well as non edible;○ In Module-II: Capital cost of project for establishing oil mills, solvent extraction plant, oil refinery plant, & other plant related to oil industries, Technical appraisal of plants.○ In Module-III: Financial projections- calculation of cost of production for oil mills, solvent extraction plant, oil refinery plant & other plant related to oil industries Break Even Point, Rate of Return, Pay Back Period, Depreciation etc.○ Concept of variable frequency drive, PLC & SAP. Factory lay out: Principles, general considerations, typical flow diagrams, single & multi storied buildings, different sections of a oil refinery factory and their locations, Instrumentation and automation in oil refinery. Machine layout of solvent extraction and oil refinery plant.
--	--



हरकोर्ट बटलर प्राविधिक विश्वविद्यालय

नवाबगंज, कानपुर - 208002, उ.प्र., भारत

HARCOURT BUTLER TECHNICAL UNIVERSITY

NAWABGANJ, KANPUR - 208002, U.P., INDIA

(Formerly Harcourt Butler Technological Institute, Kanpur)

Phone : +91-0512-2534001-5, 2533812, website : <http://www.hbtu.ac.in>, Email : vc@hbtu.ac.in

100 YEARS
1921 - 2021

Department of Oil Technology

Feedback analysis and Action take report of B.Tech (2018-19)

Feedback analysis	Action Taken
1. The course structure of the B.Tech. Oil Technology should be same as for all other branches of the university	Changes in Articulation matrix of subjects <ul style="list-style-type: none">On the basis of observation and suggestions of NBA the articulation matrix of few subjects were changed Restructuring of course structure <ul style="list-style-type: none">Some courses were made as compulsory subjects and shifted to previous semester so thatstudents could have better understanding of the subjects<ul style="list-style-type: none">Biotechnology of Oils & Oilseeds shifted from 7th semester to 6th semesterHydrogenation & Modification of Oils shifted from 7th semester to 6th semesterTechnology of Soaps & Synthetic Detergents shifted from 7th semester to 6th semesterEnvironmental Aspects of Oils & Allied Industries shifted from 8th semester to 6th semester
2. Theory and laboratory classes of same subjects should be synchronized and taught in the same semester	New laboratories were introduced as separate subjects <ul style="list-style-type: none">Chemistry of Oils & Allied Products Lab was introduced in the 3rd Semester and the 6th module was deleted from Chemistry of Oils & Allied ProductsQuality Assurance of Oils & Allied Products lab was reinstated as a separate subject in 7th semester and 6th module of Quality Assurance of Oils & Allied Products was deleted
3. Some important subjects should be compulsory not as electives like Biotechnology of Oils & Oilseeds, Technology of Soaps & Synthetic Detergents and Environmental Aspects of Oils & Allied Industries	Restructuring Electives <ul style="list-style-type: none">Four Program Electives were introduced instead of one and some courses were included in electives instead of being a compulsory subjectsAdvance Oil Chemistry and OleochemicalsBiotechnology of Oilseeds and Oils
4. The syllabus, seminar and project topics should be oriented towards industry related problems	Research Project <ul style="list-style-type: none">It was decided that the topics of research project conducted in final year and topics of seminar should be based on environmental issues, global matters for sustainable development
5. Syllabus of subjects should include topics so that students get inclined towards	The syllabus Modification <ul style="list-style-type: none">Chemistry of Oils & Allied Products (TOT 253)<ul style="list-style-type: none">The sixth module was removed from the syllabus as

<p>innovation and entrepreneurship</p>	<p>Chemistry of Oils & Allied Products and a new lab was created as a separate subject</p> <ul style="list-style-type: none"> ○ Accordingly articulation matrix was changed ● Quality Assurance of Oils & Allied Product (TOT 358) <ul style="list-style-type: none"> ○ The sixth module was removed from the syllabus as Quality Assurance of Oils & Allied Product and a new lab has been included as a separate subject. ○ Accordingly articulation matrix was changed. ● Biotechnology of Oils & Oilseeds (TOT 355) <ul style="list-style-type: none"> ○ This subject was made as a compulsory and shifted from Electives ○ 7th semester to 6th semester ○ Articulation matrix was modified ● Technology of Soaps & Synthetic Detergents (TOT 356) <ul style="list-style-type: none"> ○ This subject was made as a compulsory and shifted from Electives 7th semester to 6th semester ○ Articulation matrix was modified ● Environmental Aspects of Oils & Allied Industries (TOT 360) <ul style="list-style-type: none"> ○ This subject was made as a compulsory and shifted from Electives 8th semester to 6th semester ● Common Changes <ul style="list-style-type: none"> ○ The articulation matrix of all the subjects were reviewed and was modified ○ accordingly ○ The level of Bloom's Taxonomy was reviewed and modified accordingly
--	---



हरकोर्ट बटलर प्राविधिक विश्वविद्यालय

नवाबगंज, कानपुर - 208002, उ.प्र., भारत

HARCOURT BUTLER TECHNICAL UNIVERSITY

NAWABGANJ, KANPUR - 208002, U.P., INDIA

(Formerly Harcourt Butler Technological Institute, Kanpur)

Phone : +91-0512-2534001-5, 2533812, website : <http://www.hbtu.ac.in>, Email : vc@hbtu.ac.in

100 YEARS
1921 - 2021

Department of Plastic Technology

Feedback analysis and Action take report of B.Tech (2017-18)

Feedback analysis	Action Taken
1. Changes in Articulation matrix of subjects	<ul style="list-style-type: none">• On the basis of observation and suggestions of NBA the articulation matrix of few subjects were changed• New laboratories were introduced as separate subjects<ul style="list-style-type: none">○ Polymer Chemistry Lab was introduced in the 3rd Semester and the 6th module was deleted from Polymer Chemistry• Polymer Testing lab was reinstated as a separate subject in 5th semester and 6th module of Rheology and Testing of Polymers was deleted
2. Some important subjects should be compulsory not as electives like Plastic Products and Mould Design; Technology of Elastomers; Polymer Composites.	<ul style="list-style-type: none">• Some Program Electives were made compulsory<ul style="list-style-type: none">○ PPMD○ Polymer Composites• Technology of Elastomers
3. Merger of labs has reduced the practical content and at least few labs should be as separate chapters	New Elective courses have also been introduced <ul style="list-style-type: none">• Electrochemical Technology TCH 459• Petroleum Refining & Petrochemical Technology TCH 461• Bio System Process TCH 465• Management of R&D TCH 467• Advanced Chemical Process Control TCH 454• Conceptual Design of Chemical Processes
4. The syllabus, seminar and project topics should be oriented towards industry related problems	The syllabus Modification <ul style="list-style-type: none">• Polymer Chemistry (TPL 201)<ul style="list-style-type: none">○ The sixth module was removed from the syllabus as Polymer Chemistry lab has been included as a separate subject○ Accordingly articulation matrix was changed○ Concept of functionality, characteristic properties and uses of polymers, application of copolymerization• Rheology and Testing of Polymers (TPL 303)<ul style="list-style-type: none">○ The sixth module was removed from the syllabus, as Polymer Testing lab has been included as a separate subject.○ Accordingly, articulation matrix was changed. Average level of relevance for PO2 and PO3 was
5. Syllabus of subjects should include topics so that students get inclined towards innovation and entrepreneurship	
6. Syllabus of subjects should be oriented towards competitive exams such as IES, GATE, UPPSC, PSU	

<p>etc.</p>	<p>increased to 2.5 from 1.8 and 1.2 for PO7 from 1.0</p> <ul style="list-style-type: none"> • Polymer Processing-I (TPL-301) <ul style="list-style-type: none"> ○ A new module was added to add experiments and credit was distributed accordingly <ul style="list-style-type: none"> ▪ 3 theory classes, one tutorial and one for practical. ○ Accordingly articulation matrix was changed • Polymerization Engineering-I (TPL-202) <ul style="list-style-type: none"> ○ A new module was added to add experiments and credit was distributed accordingly <ul style="list-style-type: none"> ▪ i.e.3 theory classes, one tutorial and one for practical. ○ Accordingly articulation matrix was changed <ul style="list-style-type: none"> ▪ Problems related to polymerization, measurement and control in polymerization was included in the syllabus ○ Commercially important copolymers were introduced • Technology of Elastomers (TPL407) <ul style="list-style-type: none"> ○ This subject was made as a compulsory and shifted from Electives ○ In 4th module the content of Thermoplastic Elastomers has been increased ○ Articulation matrix was modified • Common Changes <ul style="list-style-type: none"> ○ The articulation matrix of all the subjects were reviewed and was modified accordingly ○ The level of Bloom's Taxonomy was reviewed and modified accordingly
-------------	---



हरकोर्ट बटलर प्राविधिक विश्वविद्यालय

नवाबगंज, कानपुर - 208002, उ.प्र., भारत

HARCOURT BUTLER TECHNICAL UNIVERSITY

NAWABGANJ, KANPUR - 208002, U.P., INDIA

(Formerly Harcourt Butler Technological Institute, Kanpur)

Phone : +91-0512-2534001-5, 2533812, website : <http://www.hbtu.ac.in>, Email : vc@hbtu.ac.in

100 YEARS
1921 - 2021

Department of Plastic Technology

Feedback analysis and Action take report of B.Tech (2018-19)

Feedback analysis	Action Taken
1. Changes in Articulation matrix of subjects	<ul style="list-style-type: none">• On the basis of observation and suggestions of NBA the articulation matrix of few subjects were changed• New laboratories were introduced as separate subjects<ul style="list-style-type: none">○ Polymer Chemistry Lab was introduced in the 3rd Semester and the 6th module was deleted from Polymer Chemistry• Polymer Testing lab was reinstated as a separate subject in 5th semester and 6th module of Rheology and Testing of Polymers was deleted
2. Some important subjects should be compulsory not as electives like Plastic Products and Mould Design; Technology of Elastomers; Polymer Composites.	<ul style="list-style-type: none">• Some Program Electives were made compulsory<ul style="list-style-type: none">○ PPMD○ Polymer Composites• Technology of Elastomers
3. Merger of labs has reduced the practical content and at least few labs should be as separate chapters	New Elective courses have also been introduced <ul style="list-style-type: none">• Electrochemical Technology TCH 459• Petroleum Refining & Petrochemical Technology TCH 461• Bio System Process TCH 465• Management of R&D TCH 467• Advanced Chemical Process Control TCH 454• Conceptual Design of Chemical Processes
4. The syllabus, seminar and project topics should be oriented towards industry related problems	The syllabus Modification <ul style="list-style-type: none">• Polymer Chemistry (TPL 201)<ul style="list-style-type: none">○ The sixth module was removed from the syllabus as Polymer Chemistry lab has been included as a separate subject○ Accordingly articulation matrix was changed○ Concept of functionality, characteristic properties and uses of polymers, application of copolymerization• Rheology and Testing of Polymers (TPL 303)<ul style="list-style-type: none">○ The sixth module was removed from the syllabus as Polymer Testing lab has been included as a separate subject.○ Accordingly articulation matrix was changed.
5. Syllabus of subjects should include topics so that students get inclined towards innovation and entrepreneurship	
6. Syllabus of subjects should be oriented towards	

<p>competitive exams such as IES, GATE, UPPSC, PSU etc.</p>	<p>Average level of relevance for PO2 and PO3 was increased to 2.5 from 1.8 and 1.2 for PO7 from 1.0</p> <ul style="list-style-type: none"> • Polymer Processing-I (TPL-301) <ul style="list-style-type: none"> ○ Anew module was added to add experiments and credit was distributed accordingly <ul style="list-style-type: none"> ▪ i.e. 3 theory classes, one tutorial and one for practical. ○ Accordingly articulation matrix was changed • Polymerization Engineering-I (TPL-202) <ul style="list-style-type: none"> ○ A new module was added to add experiments and credit was distributed accordingly <ul style="list-style-type: none"> ▪ i.e.3 theory classes, one tutorial and one for practical. ○ Accordingly articulation matrix was changed <ul style="list-style-type: none"> ▪ Problems related to polymerization, measurement and control in polymerization was included in the syllabus ○ Commercially important copolymers were introduced • Technology of Elastomers (TPL407) <ul style="list-style-type: none"> ○ This subject was made as a compulsory and shifted from Electives ○ In 4th module the content of Thermoplastic Elastomers has been increased ○ Articulation matrix was modified • Common Changes <ul style="list-style-type: none"> ○ The articulation matrix of all the subjects were reviewed and was modified accordingly ○ The level of Bloom's Taxonomy was reviewed and modified accordingly
---	--