


**CHAITANYA BHARATI INSTITUTE OF TECHNOLOGY**

**DEPARTMENT OF CHEMICAL ENGINEERING**  
**Stake holder involvement in Curriculum Development**  
**AY 2020-21**

**Action taken and implementation in Curriculum**


**INDEX**

<b>S No</b>	<b>Name of the stake holder</b>	<b>Page No.</b>
1	Students	2-5
2	Teachers	6-8
3	Employers	9-11
4	Alumni	12-14

  
1/2 HEAD  
Dept. of Chemical Engineering  
Chaitanya Bharathi Institute of Technology  
Gandipet, Hyderabad-75.

## 1) Students

S.no.	Suggestions & opinion	Actions Taken
1	Internships to be offered after every year	Implemented in the R 20 scheme with Credits
2	New elective courses required in curriculum (core and Software)	ML, DS, AI are implemented in S/W and Optimization, Sustainability are introduced in the curriculum
3	MOOCS to be included in curriculum with weightage	Implemented as internship after second semester.

  
1/c HEAD  
Dept. of Chemical Engineering  
Chaitanya Bharathi Institute of Technology  
Gandipet, Hyderabad-75.

## Students Proofs



### CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY (AUTONOMOUS)

Scheme of Instructions III Sem B.Tech (Chemical Engineering)

As per AICTE Model Curriculum 2020-21

#### DEPARTMENT OF CHEMICAL ENGINEERING

#### SEMESTER – III

S. No	Course Code	Title of the Course	Scheme of Instruction			Scheme of Examination			Credits
			Hours per Week			Duration of SEE in Hours	Maximum Marks		
			L	T	P/D		CIE	SEE	
<b>THEORY</b>									
1	20MTC08	Mathematics III(PDE & S)	3	1	-	3	40	60	4
2	20CSC06	Basics of Data Structures	2	-	-	3	40	60	2
3	20CHC01	Chemical Engineering Thermodynamics I	3	-	-	3	40	60	3
4	20CHC02	Fluid Mechanics	3	1	-	3	40	60	4
5	20CHC03	Material and Energy Balance Calculations	3	1	-	3	40	60	4
6	20CHC04	Mechanical Unit Operations	3	-	-	3	40	60	3
<b>PRACTICAL</b>									
7	20CSC07	Basics of Data Structures Lab	-	-	2	3	50	50	1
8	20CHC05	Fluid Mechanics Lab	-	-	3	3	50	50	1.5
9	20CHC06	Mechanical Unit Operations Lab	-	-	3	3	50	50	1.5
10	20CHI01	MOOCs/Training/ Internship	2-3 weeks/ 90 hours						2
<b>TOTAL</b>			<b>17</b>	<b>03</b>	<b>08</b>	<b>-</b>	<b>390</b>	<b>500</b>	<b>26</b>

L: Lecture

T: Tutorial

P: Practical

CIE - Continuous Internal Evaluation

SEE - Semester End Examination

NC- Non Credit

  
1/c HEAD

Dept. of Chemical Engineering  
Chaitanya Bharathi Institute of Technology  
Gandipet, Hyderabad-75.


**Choice Based Credit System (With effect from 2022-2023)**  
**B.Tech (Chemical Engineering)**

**Semester V**

S. No	Course Code	Title of the Course	Scheme of Instruction			Scheme of Examination			Credits
			Hours per Week			Duration of SEE in Hours	Maximum Marks		
			L	T	P/D		CIE	SEE	
<b>THEORY</b>									
1	20MBC01	Engineering Economics & Accountancy	3	-	-	3	40	60	3
2	20CHC13	Chemical Engineering Thermodynamics II	3	-	-	3	40	60	3
3	20CHC14	Mass Transfer Operations II	3	1	-	3	40	60	4
4	20CHC15	Process Modeling and Simulation	3	-	-	3	40	60	3
5		Professional Elective - II	3	-	-	3	40	60	3
6		Open Elective- I	3	-	-	3	40	60	3
7	20EGM03	Universal Human Values-2	3			3	40	60	3
8	20CHI02	Internship	-	-	-	-	-	-	2
<b>PRACTICAL</b>									
9	20CHC16	Mass Transfer Operations Lab	-	-	3	3	50	50	1.5
10	20CHC17	Process Modeling and Simulation Lab	-	-	3	3	50	50	1.5
<b>TOTAL</b>			<b>21</b>	<b>1</b>	<b>06</b>	<b>-</b>	<b>380</b>	<b>520</b>	<b>27</b>

S.No	Course Code	Professional Elective II
1	20CHE05	Catalysis
2	20CHE06	Fertilizer Technology
3	20CHE07	Pollution Control in Process Industries
4	20CHE08	Polymer Science and Technology

S.No	Course Code	Open Elective I
1	20CE O02	Disaster Risk Reduction and Management
2	20ME O15	Principles of Industry 4.0
3	20ADO01	Introduction to Python Programming
4	20CS O 05	Basics of Artificial Intelligence

  
 1/c HEAD  
**Dept. of Chemical Engineering**  
**Chaitanya Bharathi Institute of Technology**  
**Gandipet, Hyderabad-75.**



**CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY  
(AUTONOMOUS)**

Scheme of Instructions III Sem B.Tech (Chemical Engineering)

As per AICTE Model Curriculum 2020-21

**DEPARTMENT OF CHEMICAL ENGINEERING**

**SEMESTER – III**

S. No	Course Code	Title of the Course	Scheme of Instruction			Scheme of Examination			Credits
			Hours per Week			Duration of SEE in Hours	Maximum Marks		
			L	T	P/D		CIE	SEE	
<b>THEORY</b>									
1	20MTC08	Mathematics III( PDE & S)	3	1	-	3	40	60	4
2	20CSC06	Basics of Data Structures	2	-	-	3	40	60	2
3	20CHC01	Chemical Engineering Thermodynamics I	3	-	-	3	40	60	3
4	20CHC02	Fluid Mechanics	3	1	-	3	40	60	4
5	20CHC03	Material and Energy Balance Calculations	3	1	-	3	40	60	4
6	20CHC04	Mechanical Unit Operations	3		-	3	40	60	3
<b>PRACTICAL</b>									
7	20CSC07	Basics of Data Structures Lab	-	-	2	3	50	50	1
8	20CHC05	Fluid Mechanics Lab	-	-	3	3	50	50	1.5
9	20CHC06	Mechanical Unit Operations Lab	-	-	3	3	50	50	1.5
10	20CHI01	MOOCs/Training/ Internship	2-3 weeks/ 90 hours						2
<b>TOTAL</b>			<b>17</b>	<b>03</b>	<b>08</b>	<b>-</b>	<b>390</b>	<b>500</b>	<b>26</b>

**L: Lecture**

**T: Tutorial**

**P: Practical**

**CIE - Continuous Internal Evaluation**

**SEE - Semester End Examination**


**NC- Non Credit**

*[Signature]*  
1/c HEAD

**Dept. of Chemical Engineering  
Chaitanya Bharathi Institute of Technology  
Gandipet, Hyderabad-75.**

## 2) Faculty

S. no	Suggestions/Feedback	Action Plan
1	Instead of a conventional drawing course at first year level, it can be done using CAD type software	Implemented in the curriculum
2	CFD and Process Intensification course can be included in the curriculum	The new electives are included in the scheme to be implemented
3	Chemical Processes Optimization, , Sustainable Engineering can be introduced in place of Green Technology	Suggestion was implemented

  
1/c HEAD  
Dept. of Chemical Engineering  
Chaitanya Bharathi Institute of Technology  
Gandipet, Hyderabad-75.

## Faculty (Proofs)

### CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY (AUTONOMOUS)

Scheme of Instructions of II Semester of B.Tech. – Chemical Engineering  
as per AICTE Model Curriculum 2020-21

#### DEPARTMENT OF CHEMICAL ENGINEERING

#### SEMESTER -II

S. No	Course Code	Title of the Course	Scheme of Instruction			Scheme of Examination			Credits
			Hours per Week			Duration of SEE in Hours	Maximum Marks		
			L	T	P/D		CIE	SEE	
<b>THEORY</b>									
1	20MT C06	Vector Calculus and Differential Equations	3	1	-	3	40	60	4
2	20EG C01	English	2	-	-	3	40	60	2
3	20PY C07	Physics	3	-	-	3	40	60	3
4	20EEC01	Basic Electrical Engineering	3	-	-	3	40	60	3
<b>PRACTICAL</b>									
5	20EG C02	English lab	-	-	2	3	50	50	1
6	20PY C10	Physics Lab	-	-	4	3	50	50	2
7	20EEC02	Basic Electrical Engineering Lab	-	-	2	3	50	50	1
8	20ME C01	CAD and Drafting	-	1	3	3	50	50	2.5
9	20MB C02	Community Engagement	30 field + 2P/W			-	50	-	1.5
<b>TOTAL</b>			<b>11</b>	<b>2</b>	<b>11</b>	<b>-</b>	<b>410</b>	<b>440</b>	<b>20</b>

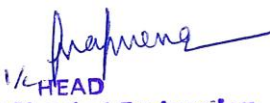
L: Lecture

T: Tutorial

P: Practical

CIE - Continuous Internal Evaluation

SEE - Semester End Examination

  
 1/4 HEAD  
 Dept. of Chemical Engineering  
 Chaitanya Bharathi Institute of Technology  
 Gandipet, Hyderabad-75.

CHOICE BASED CURRICULUM SYSTEM (WITH EFFECT FROM 2022-2023)

B.Tech (Chemical Engineering)

Semester VII


S. No	Course Code	Title of the Course	Scheme of Instruction			Scheme of Examination			Credits
			Hours per Week			Duration of SEE in Hours	Maximum Marks		
			L	T	P/D		CIE	SEE	
<b>THEORY</b>									
1		Professional Elective -IV	3	-	-	3	40	60	3
		Open Elective - II	3	-	-	3	40	60	3
3		Professional Elective - V	3	-	-	3	40	60	3
4		Open Elective - III	3	-	-	3	40	60	3
5		Gender sensitization	2	-	-	2	0	50	NC
6	20CHI03	Internship	4-6 weeks / 180 hours						3
<b>PRACTICAL</b>									
8	20CHC24	Project Design Part I	-	-	4	-	50	50	2
<b>TOTAL</b>			<b>14</b>		<b>4</b>		<b>210</b>	<b>340</b>	<b>17</b>

Course Code	Professional Elective IV
1 20CHE13	Biochemical Engineering
2 20CHE14	Corrosion Engineering
3 20CHE15	Optimization of Chemical Processes
4 20CHE16	Process Intensification

Course Code	Open Elective II
1 20ME 001	Robotics
2 20EGO 01	Technical Writing Skills
3 20CSO 07	Basics of Machine Learning
4 20 IT O 01	Object Oriented Programming Using JAVA

Course Code	Professional Elective V
1 20CHE17	Computational Fluid Dynamics
2 20CHE18	Mineral Processing Technology
3 20CHE19	Nuclear Engineering
4 20CHE20	Sustainable Engineering


Course Code	Open Elective III
1 20MEO03	Research Methodology
2 20EEO02	Energy Management Systems
3 20ITO02	Principles of IoT
4 20PYO01	Histories of Science and Technology

  
 1/2 HEAD  
 Dept. of Chemical Engineering  
 Chaftanya Bharathi Institute of Technology  
 Gandipet, Hyderabad-75.



### 3) Employer

S.no.	Suggestions & opinion	Action taken
1	Suggestions were given to include the courses from software streams	Many Software courses are introduced like AI , ML, DS, IoT
2	Core stream subjects which have job potential should be included in curriculum	Optimization, Sustainability, Process Intensification are introduced in the curriculum
3.	Course on Waste management is much needed in curriculum	Implemented in the curriculum as open elective

  
1/2 HEAD  
Dept. of Chemical Engineering  
Chaitanya Bharathi Institute of Technology  
Gandipet, Hyderabad-75.

# Employer Proofs

## B.Tech (Chemical Engineering)

### Semester VII


S. No	Course Code	Title of the Course	Scheme of Instruction			Scheme of Examination			Credits
			Hours per Week			Duration of SEE inHours	Maximum Marks		
			L	T	P/D		CIE	SEE	
<b>THEORY</b>									
1		Professional Elective -IV	3		-	3	40	60	3
		Open Elective - II	3	-	-	3	40	60	3
3		Professional Elective – V	3	-	-	3	40	60	3
4		Open Elective - III	3	-	-	3	40	60	3
5		Gender sensitization	2	-	-	2	0	50	NC
6	20CHI03	Internship	4-6 weeks / 180 hours						3
<b>PRACTICAL</b>									
8	20CHC24	Project Design Part I	-	-	4	-	50	50	2
<b>TOTAL</b>			<b>14</b>		<b>4</b>	<b>-</b>	<b>210</b>	<b>340</b>	<b>17</b>

	Course Code	Professional Elective IV
1	20CHE13	Biochemical Engineering
2	20CHE14	Corrosion Engineering
3	20CHE15	Optimization of Chemical Processes
4	20CHE16	Process Intensification

	Course Code	Open Elective II
1	20ME 001	Robotics
2	20EGO 01	Technical Writing Skills
3	20CSO 07	Basics of Machine Learning
4	20 IT O 01	Object Oriented Programming Using JAVA

	Course Code	Professional Elective V
1	20CHE17	Computational Fluid Dynamics
2	20CHE18	Mineral Processing Technology
3	20CHE19	Nuclear Engineering
4	20CHE20	Sustainable Engineering

	Course Code	Open Elective III
1	20MEO03	Research Methodology
2	20EEO02	Energy Management Systems
3	20ITO02	Principles of IoT
4	20PYO01	Histories of Science and Technology

  
 HEAD  
 Dept. of Chemical Engineering  
 Chaityanya Bharathi Institute of Technology  
 Gandipet, Hyderabad-75.




**CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY (A)**  
Choice Based Credit System (With effect from 2022-2023)

**B.Tech (Chemical Engineering)**

**Semester VIII**


S. No	Course Code	Title of the Course	Scheme of Instruction			Scheme of Examination			Credits
			Hours per Week			Duration of SEE inHours	Maximum Marks		
			L	T	P/D		CIE	SEE	
<b>THEORY</b>									
1		Open Elective -IV	3		-	3	40	60	3
<b>PRACTICAL</b>									
1	20CHC25	Technical Seminar	-	-	2				1
2	20CHC26	Project Part II	-	-	8*				4
<b>TOTAL</b>			<b>03</b>		<b>10</b>	-			<b>8</b>
*180 hrs for the students working on the paid internship during VIII SEM Clock Hours per week : 20									

	Course Code	<b>Open Elective IV</b>
1	20ME 004	Principles of Entrepreneurship
2	20 EC 003	Principles of Biomedical Instrumentation
3	20EE 004	Waste management
4	20ADO03	Fundamentals of Data Science

  
1/c-HEAD  
Dept. of Chemical Engineering  
Chaitanya Bharathi Institute of Technology  
Gandipet, Hyderabad-75.

## Alumni

S.No	Suggestions/Opinions	Action taken
1	Suggestions are given to add insight into the latest drugs, Vitamins, Vaccines and Cancer/ neurological medicines	Suggestion is to be implemented by adding the topics mentioned
2	Electives on CFD can be included	Implemented the suggestion
3	In open elective stream, electives from biotechnology can be taken like enzyme engineering, Bioreactors, Biomedical instrumentation.	Suggestion is implemented and Biomedical instrumentation is listed as open elective

  
1/2 HEAD  
Dept. of Chemical Engineering  
Chaitanya Bharathi Institute of Technology  
Gandipet, Hyderabad-75.

# Alumni (Proof)

## B.Tech (Chemical Engineering)

### Semester VII


S. No	Course Code	Title of the Course	Scheme of Instruction			Scheme of Examination			Credits
			Hours per Week			Duration of SEE in Hours	Maximum Marks		
			L	T	P/D		CIE	SEE	
<b>THEORY</b>									
1		Professional Elective -IV	3		-	3	40	60	3
		Open Elective - II	3	-	-	3	40	60	3
3		Professional Elective – V	3	-	-	3	40	60	3
4		Open Elective - III	3	-	-	3	40	60	3
5		Gender sensitization	2	-	-	2	0	50	NC
6	20CHI03	Internship	4-6 weeks / 180 hours						3
<b>PRACTICAL</b>									
8	20CHC24	Project Design Part I	-	-	4	-	50	50	2
<b>TOTAL</b>			<b>14</b>		<b>4</b>	<b>-</b>	<b>210</b>	<b>340</b>	<b>17</b>

	Course Code	Professional Elective IV
1	20CHE13	Biochemical Engineering
2	20CHE14	Corrosion Engineering
3	20CHE15	Optimization of Chemical Processes
4	20CHE16	Process Intensification

	Course Code	Open Elective II
1	20ME O01	Robotics
2	20EGO 01	Technical Writing Skills
3	20CSO 07	Basics of Machine Learning
4	20 IT O 01	Object Oriented Programming Using JAVA

	Course Code	Professional Elective V
1	20CHE17	Computational Fluid Dynamics
2	20CHE18	Mineral Processing Technology
3	20CHE19	Nuclear Engineering
4	20CHE20	Sustainable Engineering

	Course Code	Open Elective III
1	20MEO03	Research Methodology
2	20EEO02	Energy Management Systems
3	20ITO02	Principles of IoT
4	20PYO01	Histories of Science and Technology

  
 HEAD  
 Dept. of Chemical Engineering  
 Chaitanya Bharathi Institute of Technology  
 Gandipet, Hyderabad-75.



**CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY (A  
Choice Based Credit System (With effect from 2022-2023)**

**B.Tech (Chemical Engineering)**

**Semester VIII**

S. No	Course Code	Title of the Course	Scheme of Instruction			Scheme of Examination			Credits
			Hours per Week			Duration of SEE inHours	Maximum Marks		
			L	T	P/D		CIE	SEE	
<b>THEORY</b>									
1		Open Elective -IV	3		-	3	40	60	3
<b>PRACTICAL</b>									
1	20CHC25	Technical Seminar	-	-	2				1
2	20CHC26	Project Part II	-	-	8*				4
<b>TOTAL</b>			<b>03</b>		<b>10</b>	<b>-</b>			<b>8</b>
*180 hrs for the students working on the paid internship during VIII SEM Clock Hours per week : 20									

	Course Code	Open Elective IV
1	20ME O04	Principles of Entrepreneurship
2	20 EC O03	Principles of Biomedical Instrumentation
3	20EE O04	Waste management
4	20ADO03	Fundamentals of Data Science

  
 1/c HEAD

**Dept. of Chemical Engineering**  
**Chaitanya Bharathi Institute of Technology**  
**Gandipet, Hyderabad-75.**