



ENGINEERS WITH
SOCIAL RESPONSIBILITY

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BTech Curriculum Review Process and Summary Changes made in the curriculum

Curriculum review is a holistic and rigorous process, which involves soliciting feedback from all stakeholders of the program. The stakeholders include faculty, students, alumni, employers, and external experts from academia and industry. The objective of collecting feedback from various stakeholders is to provide the inputs relevant to the Program Educational Objectives / Program Outcomes, to graduation requirements, to align with industry demand, and considering pedagogical issues of teaching-learning and evaluation processes. The BTech Curriculum Revision Committee (BTCRC) performs this exercise by collecting feedback from various stakeholders, followed by discussion with a specialized faculty group and faculty at large. The entire process has gone through extensive deliberations on inputs and suggestions provided by stakeholders

Credit structure

The BTech(ICT) program is designed to operate on a semester-based credit system with a 10- point scale. Each course is associated with a fixed number of credits. Credits are awarded on an L-T-P-C system ($C=L+T+P/2$) per semester, that is, the number of contact hours for Lectures (L), Tutorials (T) and Practical (P) in a week.

Major changes in the revised curriculum

Structural Changes:

- Integrated Honours degree by taking 15 additional credits ~ 10% of total credits.
- Introduction of Minors specialized area by taking 15-18 additional credits ~ 10% of total credits.
- Reduction of Core credits from 111 credits to 90 credits ~ 20% of total Core credits.
- Introduction of Co-Curricular Activities (4 credits) and Exploratory projects (2 credits) in the first two years ~ 5% of total credits.



Revision of syllabus:

- Digital Logic Design and Computer Organization courses are being merged into a single course Digital Logic and Computer Organization.
- Content revision of Computer Systems Programming, and ICT Electives and Technical Electives.
- Introduction of new Electives.

The details of the Structural and Syllabus revisions are captured as below:

Existing Semester-1	L-T-P-C	Proposed Semester-1	L-T-P-C
Engineering Design Workshop	1-0-3-2.5	Introduction to ICT	1-0-2-2
Language and Literature	3-0-0-3	Language and Literature	3-0-0-3
Calculus	3-1-0-4	Calculus	3-1-0-4
Introduction to Programming	3-0-0-3	Introduction to Programming	3-0-0-3
Introduction to Programming Lab	0-0-2-1	Programming Lab	0-0-2-1
Basic Electronic Circuits	3-0-3-4.5	Basic Electronic Circuits	3-0-2-4
		CoCurr-1	0-0-2-1
TOTAL	19	TOTAL	17

Summary changes in Semester 1: Changes in Three courses with respect to content and credit structure.

Existing Semester-2	L-T-P-C	Proposed Semester-2	L-T-P-C
Approaches to Indian Society	3-0-0-3	Approaches to Indian Society	3-0-0-3
Discrete Mathematics	3-1-0-4	Discrete Mathematics	3-1-0-4
Digital Logic Design	3-0-3-4.5	Digital Logic and Computer Organization	3-0-2-4
Data Structures	3-0-0-3	Data Structures	3-0-0-3
Data Structures Lab	0-0-4-2	Data Structures Lab using OOP	1-0-2-2
		Electromagnetic Theory	3-1-0-4
Introduction to Communication Systems (Moved to Semester 4)	3-0-3-4.5	Exploration Project	0-1-0-1



		CoCurr-2	0-0-2-1
TOTAL	21	TOTAL	20

Summary changes in Semester 2: Changes in Four courses with respect to content and credit structure.

Existing Semester-3	L-T-P-C	Proposed Semester-3	L-T-P-C
Science, Technology, Society	3-0-0-3	Science, Technology, Society	3-0-0-3
Groups and Linear Algebra	3-1-0-4	Linear Algebra	3-1-0-4
Design and Analysis of Algorithms	3-0-2-4	Design and Analysis of Algorithms	3-1-0-4
		Computer Systems Programming	3-0-2-4
Signals and Systems	3-1-0-4	Signal and Systems	3-0-2-4
Computer Organization (Merged with Digital Logic course in Semester 2)	3-0-3-4.5	Exploration Project	0-0-2-1
Electromagnetic Theory (Moved to Semester 2)	3-1-0-4	CoCurr-3	0-0-2-1
TOTAL	23.5	TOTAL	19

Summary changes in Semester 3: Changes in Four courses with respect to content and credit structure.

Existing Semester-4	L-T-P-C	Proposed Semester-4	L-T-P-C
Environmental Studies (Moved to Semester 6)	2-0-0-2	Principles of Economics	3-0-0-3
Probability, Statistics and Information Theory	3-1-0-4	Probability and Statistics	3-1-0-4
Engineered Materials (Removed from the curriculum)	3-0-0-3	Database Management System	3-0-2-4
		Embedded Hardware Design	3-0-2-4
Systems Software (Renamed, moved to Semester III)	3-0-3-4.5	Introduction to Communication Systems	3-0-2-4
Analog Circuits (Removed from the curriculum)	3-0-3-4.5	Honours-1	3-x-x-3/4
Analog Communication and Transmission Line Theory (Removed from the curriculum)	3-0-2-4	CoCurr-4	0-0-2-1
TOTAL	22	TOTAL	19+(3/4)



Summary changes in Semester 4: Changes in all courses with respect to content and credit structure.

Existing Semester-5	L-T-P-C	Proposed Semester-5	L-T-P-C
Embedded Hardware Design (Moved to Semester 4)	3-0-3-4.5	Software Engineering	3-0-2-4
Digital Communications	3-0-3-4.5	Digital Communications	3-0-2-4
Computer Networks	3-0-3-4.5	Computer Networks	3-0-2-4
ICTE- 1	3-4	ICTE-1	3-0-2-4
Database Management Systems (Moved to Semester 4)	3-0-3-4.5	TE-1	3-0-0-3
Principles of Economics (Moved to Semester 4)	3-0-0-3	Honours-2	3-x-x-3/4
TOTAL	24-25	TOTAL	19+(3/4)

Summary changes in Semester 5: Changes in Three courses with respect to content and credit structure.

Existing Semester-6	L-T-P-C	Proposed Semester-6	L-T-P-C
Software Engineering (Moved to Semester 5)	3-0-3-4.5	Environmental Science	3-0-0-3
ICTE – 2	3-4	SE-1	3-0-0-3
Open Elective – 1	3-0-0-3	ICTE-2	3-0-2-4
Open Elective – 2 / Science Elective – 1	3-0-0-3	TE-2	3-0-0-3
Technical Elective – 1	3-0-0-3	TE-3	3-0-0-3
ICTE-3 / Technical Elective – 2	3-4	Honours-3	3-x-x-3/4
		TOTAL	16+(3/4)

Summary changes in Semester 6: Changes in one course with respect to content and credit structure.

Existing Semester-7	L-T-P-C	Proposed Semester-7	L-T-P-C
Open Elective – 3 / Science Elective – 2	3-0-0-3	BTP-1	0-1-6-4
ICTE – 4	3-4	ICTE-3	3-0-2-4
Technical Elective – 3	3-4	TE-4	3-0-0-3
Technical Elective – 4 / Science Elective – 3	3-4	HASSE-1	3-0-0-3



ICTE – 5 / Technical Elective – 5	3-4	SE-2	3-0-0-3
Open Elective – 4 / Science Elective – 4	3-0-0-3	Honours-4	3-x-x-3/4
TOTAL	21-26	TOTAL	13+4+(3/4)

Summary changes in Semester 7: Changes in elective courses with respect to content and credit structure.

Existing Semester-8	L-T-P-C	Proposed Semester-8	L-T-P-C
BTP	13	BTP-2 / ITP*	0-2-12-8
		OE-1	3-0-0-3
		OE-2	3-0-0-3
		Honours-5	3-x-x-3/4
		TOTAL	6+8+(3/4)

Summary changes in Semester 8: Changes in elective courses with respect to content and credit structure.

*ITP is a Pass/Fail course.

Changes with Course category and Credits

Type	Existing Credits	Proposed Credits
Core	111	90
TE	12	12
ICTE	9	12
HASSE	6	3
SE	6	6
OE	8	6
Honours	-	15-18
Rural Intern	4	3
Res. Intern	6	4
BTP/ITP	13	12
Exp Proj	-	2
CoCurr	-	4
TOTAL	175	148+6+(15-18)

Overall the curriculum structure has gone through a major revision.




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