

B.Tech curriculum

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General instructions to all B.Tech students

- Students can register elective courses with level of $n-2$ to $n+2$ and n being their year of study
- EM3020 is not a mandatory course. It can be replaced with another FE
- Maximum CA credits allowed: 40% of LA/CA
- Maximum mini project credits allowed - 6
- The maximum credits that can be earned from a semester internship are 6. Permission from the FA and DUGC is necessary to claim these credits.
- Mini projects can be done in semesters 5,6,7 or 8. The course code for odd semester is CH4015 and for even semester its CH4025. The credit for one mini project is 3.
- Honor's project must be done in the 7th and 8th semester. For course code for 7th semester is CH4415 and for 8th semester is CH4425
- BT1010, LA1760 and ID4006 are mandatory courses for all B.Tech students.

Curriculum for 2025 batch onwards

Semester-I (Total credits=16)

Basic Sciences

- EP1108: Modern Physics (2)
- CY1010/CY1018: Environmental Chemistry (2)
- MA1110: Calculus-I (1)
- MA1220: Calculus-II (1)
- CH1120: Applied Chemistry (2)
- BT1010: Introduction to Life Sciences (1)

Basic Engineering

- ID1063: Introduction to Programming (3)
- CH1110: Introduction to Chemical Engineering (2)

Liberal Arts

- LA1760: Communication Skills (2)

Semester-II (Total credits=15)

Basic Sciences

- CY1031: Chemistry Lab (2)
- MA1140: Elementary Linear Algebra (1)
- MA1150: Differential Equations (1)
- CH1131: Applied Chemistry Lab (1)

Basic Engineering

- ID1054: Digital Fabrication (2)
- CH1140: Thermodynamic Laws & Phase Transitions (3)

Core

- CH1130: Chemical Process Calculations (2)

Liberal Arts

- LAxxxx: LA/CA (3)

Semester-III (Total credits=17)

Core

- CH2110: Biological Engineering (3)
- CH2120: Numerical Methods (3)
- CH2130: Transport Phenomena (3)
- CH2140: Chemical Engineering Thermodynamics (3)
- CH2150: Applied Mathematics in Chemical Engineering (3)

Liberal Arts

- LAxxxx: LA/CA (2)

Semester-IV (Total credits=19)

Basic Sciences

- EP1031: Physics Lab (2)

Basic Engineering

- ID1050: Artificial Intelligence (1)
- EE1102: Basic Electrical Engineering (3)
- CH2160: Materials Science for Chemical Engineers (2)

Core

- CH2170: Chemical Reaction Engineering-I (3)
- CH2180: Heat Transfer (3)
- CH2190: Fluid Mechanics (3)

Liberal Arts

- LAxxxx: LA/CA (2)

Semester-V (Total credits=19)

Core

- CH3110: Mass Transfer – I (3)
- CH3120: Mechanical Operations (3)
- CH3130: Chemical Technology (2)
- CH3140: Chemical Reaction Engineering-II (3)
- CH3121: HT & FM Lab (2)

Departmental Elective

- CHxxxx: Dept. Electives (6)

Semester-VI (Total credits=17)

Core

- CH3150: Mass Transfer – II (2)
- CH3160: Process Control (3)
- CH3131: MUO and CRE Lab (2)

Departmental Elective

- CHxxxx: Dept. Elective (6)

Free Elective

- Free Electives-I (4)

Semester-VII (Total credits=13)

Core

- CH4112: Process Design and Economics (3)
- CH4111: Process Simulation Lab (2)
- CH4121: MT and Control Lab (2)

Departmental Elective

- CHxxxx: Dept. Electives (3)

Free Elective

- Free Elective-II (3)

Semester-VIII (Total credits=11)

Core

- CH4140: Process Intensification (1)

Liberal Arts

- ID4006: Ethics and Values (1)

Departmental Elective

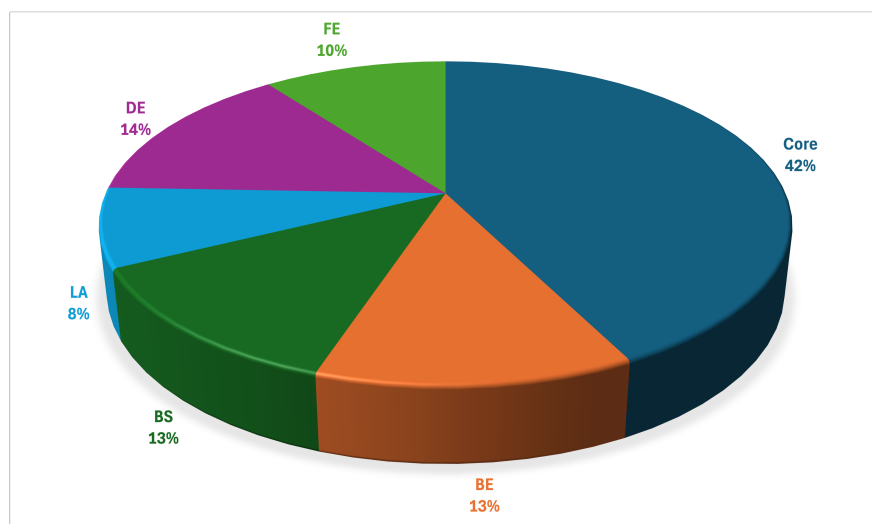
- CHxxxx: Dept. Electives (3)

Free Elective

- Free Electives-III (6)

Credit distribution, Total =127

- Core: 54
- Basic Engineering: 16
- Basic Sciences: 16
- Liberal Arts: 10
- Departmental Elective: 18
- Free Elective: 13



Honor's degree

- To earn an Honor's degree, a student must register for the Honor's degree in the 5th or 6th semester.
- Students with backlogs are not allowed to register for the Honor's degree.
- Student's must earn additional 12 credits for Honor's degree
- Students must complete an additional 6 credits of department electives in the 5th and/or 6th semesters.
- Students must register for 3 credits of project work in both the 7th and 8th semesters.
- After enrolling into Honor's, if a student gets Fail (F) grade in more than 3 credits his/ her enrolment to the same will be terminated.

Curriculum for Honor's degree

- CHxxxx: Department Electives, 5th Sem (3)
- CHxxxx: Department Electives, 6th Sem (3)
- CH4415: Honors project (Stage-1) (3)
- CH4425: Honors project (Stage-2) (3)

Minor degree

- Minor registration has to be done before the Add period of 5th Semester (1-2 segment).
- Students with backlogs are not allowed to register for the Honor's degree.
- In order to earn a minor degree, a student has to earn a minimum of 12 extra credits from a basket of courses prescribed for each minor stream (if a student has already done some of the required courses as free electives before, he may approach DUGC/ Concerned Department for equivalent credits).
- A student can also enrol for both Minor & Honors or for two Minors.
- After enrolling into, if a student gets Fail (F) grade in more than 3 credits his/ her enrolment to the same will be terminated.

Curriculum for Minor Degree

- CH1140: Thermodynamic laws and phase transitions* (3) or
- CH2130: Transport Phenomena* (3)
- CH2170: Chemical Reaction Engineering-1 (3)
- CH3110: Mass Transfer-1 (3)
- CH3160: Process Control (3)

* A student will take CH1140 he/she has not taken any course in Thermodynamics.

* A student will take CH2130 he/she has taken a course in Thermodynamics

Double Major

- The Double Major registration has to be done before the Add period of 5th Semester (1-2 segment).
- The student should not have any backlogs.
- An additional 24 credits as listed by the another department needs to be completed by the student. the second-department may also list an additional set of prerequisite courses in some cases.
- A student cannot do double-major and minor in the same department.
- After enrolling into double-major, if a student gets Fail (F) grade in more than 3 credits his/ her enrolment to the same will be terminated.

Curriculum for Double Major

- CH2130: Transport Phenomena (3)
- CH2140: Chemical Engineering Thermodynamics (3)
- CH2150: Applied Mathematics in Chemical Engineering (3)
- CH2170: Chemical Reaction Engineering-1 (3)

- CH3110: Mass Transfer-1
- CH3120: Mechanical Operations (3)
- CH3160: Process Control (3)
- CH4112: Process Design and Economics (3)