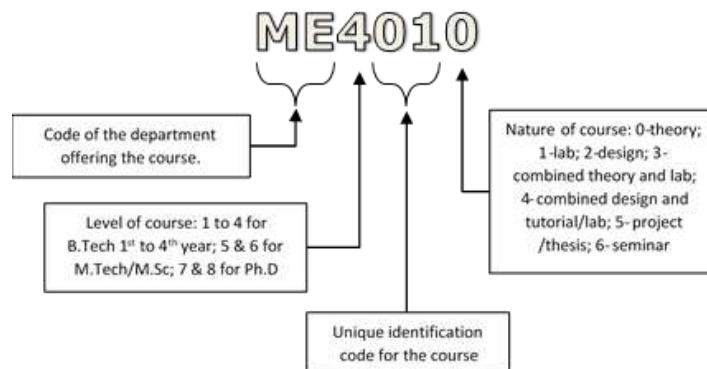


Academic Programmes and Curriculum

Programmes: Only BTech programmes in computer science, electrical engineering, and mechanical engineering are offered at IIT Bhilai. The courses are currently being taught by permanent faculty members of IIT Hyderabad.

Course code representation: Each course is denoted by six alpha-numerals course number, two alphabets followed by four numerals



a) Computer Science and Engineering (Credits: 125)

Semester 1

Semester	Course Code	Course Name	Credit
1	ID1035	Independent Project	1
1	MA1110	Calculus--I	1
1	MA1220	Calculus--II	2
1	PHXXXX	PH Electives	1
1	CYXXXX	CY Electives	1
1	ID1054	Digital Fabrication	2
1	ID1303	Introduction to Programming	2
1	LAxxxx	Liberal & Creative Arts Electives	1
1	CS1310	Discrete Structures I	2
1	EE1110	Applied Digital Logic Desgn	1
1	EE1120	Digital System Design	1
1 st Semester Credit			15

Semester 2

Semester	Course Code	Course Name	Credit
2	MA1130	Vector Calculus	1
2	MA1140	Linear Algebra	1
2	PHXXXX	PH Electives	2
2	CYXXXX	CY Electives	1
2	BOXXXX	BO Electives	1
2	CS1353	Introduction to Data Structures	3
2	CS1340	Discrete Structures II	2
2	LAxxxx	Liberal & Creative Arts Electives	2
2	XXxxxx	Free Electives	1
2	EEXXX	DSP	1
2 nd Semester Credit			15

Semester 3

Semester	Course Code	Course Name	Credit
3	MA2110	Probability	1
3	PHxxxx	PH electives	1
3	PH1031	Physics Lab	2
3	CS2233	Data Structures	3
3	CS2400	Principles of Programming Languages I	1
3	LAxxxx	Liberal & Creative Arts Electives	2
3	XXxxxx	Free Electives	2
3	CS3510	OS I	1
3	CS2323	Computer Architecture	2
3 rd Semester Credit			15

Semester 4

Semester	Course Code	Course Name	Credit
4	CS2410	Theory of Computation	2
4	CS2420	Introduction to Complexity Theory	1
4	CS2433	Principles of Programming Languages II	3
4	XXxxxx	Free Electives	2
4	Maxxxx	MA Elective	1
4	CS3320	Compilers--I	1
4	CS2443	Algorithms	3
4	CS3523	OS II	3
4 th Semester Credit			16

Semester 5

Semester	Course Code	Course Name	Credit
5	BMXXXX	BM Electives	1
5	CS3423	Compilers--II	3
5	CSxxxx	Dept Electives	3
5	CS3530	Computer Networks I	1
5	Laxxx	Liberal & Creative Arts Electives	3
5	XXXXXX	Free Electives	5
5	CS3550	DBMS I	1
5 th Semester Credit			17

Semester 6

Semester	Course Code	Course Name	Credit
6	CS3543	Computer Networks II	3
6	CS3563	DBMS II	3
6	CSxxxx	Dept Electives	5
6	XXXXXX	Free Electives	3
6	LAxxxx	Liberal & Creative Arts Electives	3
6 th Semester Credit			17

Semester 7

Semester	Course Code	Course Name	Credit
7	CS4443	Software Engineering	3
7	CSxxxx	Dept Electives	6
7	LAxxxx	Liberal & Creative Arts Electives	3

7	XXxxxx	Free Electives	3
7 th Semester Credit			15

Semester 8

Semester	Course Code	Course Name	Credit
8	CSxxxx	Dept Electives	6
8	LAxxxx	Professional Ethics	1
8	LAxxxx	Liberal & Creative Arts	2
8	XXxxxx	Free Electives	6
7 th Semester Credit			15

b) Electrical Engineering (Credits: 125)

Semester 1

Semester	Course Code	Course Name	Credit
1	ID1035	Independent Project	1
1	ID1054	Digital Fabrication	2
1	MA1110	Calculus-I	1
1	MA1220	Calculus-II	2
1	PH1017	Classical Physics	1
1	EE1010	Electric Circuits	1
1	EE1020	Magnetic Circuits	1
1	EE1110	Applied Digital Logic Design	1
1	EE1120	Digital System Design	1
1	EE1310	Signals and Communications	1
1	EE1320	Internet of Things (IOT)	1
1	BM1030	Bioengineering	1
1	LAxxxx/CA XXXX	LA/CA Elective	1
1 st Semester Credit			15

Semester 2

Semester	Course Code	Course Name	Credit
2	EE1025	Independent Project	1
2	MA1130	Vector Calculus	1
2	MA1150	Differential Equations	1
2	EE1130	Analog Electronics	1
2	EE1510*	Matrix Analysis	1
2	EE1520*	Data Analytics	2
2	EE1210	Basic Control Theory	1
2	EE1330	DSP	1
2	EE1410	Data Structures	2
2	EE1140	Semiconductor Fundamentals	1
2	EE1150	Embedded programming	1
2	XXxxxx	Free Elective	1
2	LA/CA XXXX	LA/CA Elective	1
2 nd Semester Credit			15

Semester 3

Semester	Course Code	Course Name	Credit
3	EE2015	EE Independent Project	1
3	XXxxxx	Science Elective	1
3	CY1017	Environmental Chemistry - I	1
3	CY1031	Chemistry Lab	2
3	EE2110	Microprocessors	1
3	EE2120	Device Physics	2
3	EE2210	Transformers and DC Machines	2
3	EE2220	AC Machines	1
3	EE2230	Power Electronics	1
3	EE2310	Random Processes	1

3	EE2320	Digital Modulation Techniques	1
3	LA/CA xxxx	LA/CA Elective	2
3 rd Semester Credit			16

Semester 4

Semester	Course Code	Course Name	Credit
4	EE2025	EE Independent Project	1
4	MA2130	Complex Variables	1
4	PH1027	EM and Maxwells Equations	1
4	EE2150	Digital Electronics	1
4	EE2170	Mixed Signal Electronics	1
4	EE2160	Embedded Systems	1
4	EE2140	CMOS Fabrication	1
4	EE2240	Control Systems	2
4	EE2250	Renewable Energy and Power	1
4	EE2211	Electrical Machines Lab	2
4	EE2330	Antenna Design	1
4	EE2340	Information Sciences	1
4	LA/CA XXXX	LA/CA Elective	2
4	EE2025	EE Independent Project	1
4 th Semester Credit			16

Semester 5

Semester	Course Code	Course Name	Credit
5	IDxxxx	Independent Project	1
5	XXxxxx	Science Elective	2
5	EE3210	Smat grid	1
5	EE3220	Power System Practice	2
5	EE3310	Advanced DSP	2
5	EExxxx	Core Electives	3
5	XXxxxx	Free Elective	3
5	LA/CAxxxx	LA/CA Elective	2
5 th Semester Credit			16

Semester 6

Semester	Course Code	Course Name	Credit
6	IDxxxx	Independent Project	1
6	XXxxxx	Science Elective	1
6	XXxxxx	Engineering Elective	2
6	EExxxx	Core Electives	9
6	XXxxxx	Free Electives	3
6	LA/CA xxxx	LA/CA Elective	1
6 th Semester Credit			17

Semester 7

Semester	Course Code	Course Name	Credit
7	EE4015	EE Independent Project	3
7	XXxxxx	Science Elective	1
7	EExxxx	Core Electives	3
7	LAxxxx	Liberal Arts Elective	1
7	CAxxxx	Creative Arts Elective	1
7	XXxxxx	Free Electives	6
7 th Semester Credit			15

Semester 8

Semester	Course Code	Course Name	Credit
8	EE4025	EE Independent Project	3
8	XXxxxx	Science Elective	1
8	EExxxx	Core Elective	3
8	LAxxxx	Liberal Arts Electives	1
8	CAxxxx	Creative Arts Electives	1
8	XXxxxx	Free Elective	6
7 th Semester Credit			15

c) Mechanical Engineering (Credits: 129)

Semester 1

Semester	Course Code	Course Name	Credit
1	ID1035	Independent Project	1
1	MA1110	Calculus-I	1
1	MA1220	Calculus-II	2
1	ID1130	Engineering Statics	2
1	ID1100	Fluid Mechanics-I	2
1	ME1010	Manufacturing Technology	1
1	ID1054	Digital Fabrication	2
1	ID1041	Engineering Drawing	2
1	ID1171	Fabrication Lab - I	2
1	LAxxxx	Liberal & Creative Arts Electives	1
1 st Semester Credit			16

Semester 2

Semester	Course Code	Course Name	Credit
2	MA1130	Vector Calculus	1
2	MA1140	Linear Algebra	1
2	MA1150	Differential Equations	1
2	PH1027	Electro Magnetism & Maxwells eqn	1
2	CY1027	Dynamics of Chemical Systems-I	1
2	CY1040	Dynamics of Chemical Systems-II	2
2	BO1010	Introduction to Life Sciences	1
2	ME1030	Dynamics	2
2	ID1160	Solid Mechanics - I	2
2	ID1140	Thermodynamics - I	1
2	ID1091	Fabrication Lab - II	2
2	LAxxxx	Liberal & Creative Arts Electives	1
2 nd Semester Credit			16

Semester 3

Semester	Course Code	Course Name	Credit
3	MA2110	Probability	1
3	MA2120	Transforms	1

3	PH1031	Physics Lab	2
3	CY1017	Environmental Chemistry - I	1
3	BM1030	Bio-Engineering	1
3	ID1303	Introduction to Programming: Theory & Lab	2
3	EE1110	Boolean Algebra	1
3	EE1010	Electrical Circuits	1
3	MS1020	Metallic Materials	1
3	MS2020	Physical Metallurgy	2
3	ID1110	Fluid Mechanics - II	1.5
3	ID2020	Solid Mechanics - II	2
3	LAxxxx	Liberal & Creative Arts Electives	1
3 rd Semester Credit			17.5

Semester 4

Semester	Course Code	Course Name	Credit
4	MA2130	Complex Variables	1
4	MA2140	Statistics	1
4	ME2080	Introduction to Mathematical Modelling	1
4	ME2040	Intrumentation	1.5
4	ME2030	Manufacturing Science -I	2
4	ME2090	Kinematics of Machinery	2
4	ME2100	Dynamics of Machinery	2
4	ID1150	Thermodynamics - II	2
4	ME2421	Solid Mechanics Lab	1
4	ME2431	Fluid Mechanics Lab	1
4	LAxxxx	Liberal & Creative Arts Electives	1
4	XXxxxx	Free Electives	1
4 th Semester Credit			16.5

Semester 5

Semester	Course Code	Course Name	Credit
5	ME3010	Manufacturing Science - II	2
5	ME3070	Power and Refrigeration System	1.5
5	ME4060	Applied Elasticity	2
5	ME3080	Design of Machine Elements - I	2
5	ME3090	Design of Machine Elements - II	2
5	ME3110	Heat & Mass transfer	3
5	ME3445	Finite Element Methods Lab	1
5	ME3455	Computational Fluid Dynamics Lab	1
5	MExxxx	Core-Electives	3
5	LAxxxx	Liberal & Creative Arts Electives	1
5 th Semester Credit			18.5

Semester 6

Semester	Course Code	Course Name	Credit
6	ME3100	Modeling & Simulation	2
6	ME3040	Mathematical Elements for Geometrical Modeling	1.5
6	ME3050	Computer Integrated Manufacturing	1.5
6	ME3060	Experimental Testing Techniques	1
6	ME3413	Machine Drawing & Solid Modelling	2
6	ME3140	IC Engines	3
6	ME3425	Mini-project	3
6	ME3465	Manufacturing Lab	1
6	ME3475	IC Engines Lab	1
6	LAxxxx	Liberal & Creative Arts Electives	1
6 th Semester Credit			17

Semester 7

Semester	Course Code	Course Name	Credit
7	ME4010	Control Systems	1.5
7	ME4325	Elective Project / CoreElective	3
7	ME4020	Turbo Machines	3
7	ME4030	Operations Research	1
7	ME4040	Industrial Engineering	1
7	ME4050	Production Planning & Control	1

7	ME4435	Dynamics lab	1
7	ME4445	Heat Transfer lab	1
7	MExxxx	Core-Electives (total 9 for 7 & 8 sems)	0-3
7	LAxxxx	Liberal & Creative Arts Electives (total 3 for 7 & 8 sems)	0-1
7	XXxxxx	Free Electives (total 2 for 7 & 8 sems)	0-1
7 th Semester Credit			12.5-17.5

Semester 8

Semester	Course Code	Course Name	Credit
8	MExxxx	Core-Electives (total 9 for 7 & 8 sems)	9
8	LAxxxx	Professional Ethics	1
8	LAxxxx	Liberal & Creative Arts Electives (total 3 for 7 & 8 sems)	3
8	XXxxxx	Free Electives (total 2 for 7 & 8 sems)	2
8 th Semester Credit			10-15

Grading Policy

The following grading policy and grade values are adopted for the evaluation process.

Grades	Grade Points
A+	10
A	10
A-	9
B	8
B-	7
C	6
C-	5
D	4
FS	Supplementary
FR	Repeat
I	Incomplete

Note: Course description for each course will be presented by the course instructor in the class.