

National Institute of Technology Meghalaya

UG Curriculum with effect from AY 2024-25

In view of NEP2020

Abbreviations

SC	:	Science Core
ESA	:	Engineering Science & Arts
DSC	:	Dept. Specific Core
DSE	:	Dept. Specific Elective
OE	:	Open Elective
AECC	:	Ability Enhancement Compulsory Course
SECC	:	Skill Enhancement Compulsory Course
VAC	:	Value Added Course
L	:	Laboratory Course
A	:	Audit Course

1st Year Common Structure

Semester Wise Model Plan – First Semester							
Course Code	Course Title	Course Type	Contact Hours			Credit	Pre-requisites
			L	T	P	C	
Science Core							
MA101	Engineering Maths-I (calculus, linear algebra, & statistics)	SC	3	1	0	4	None
CY101/ PH101	Engineering Chemistry/ Engineering Physics	SC	3	0	0	3	None
CY151/ PH151	Engineering Chemistry/Engineering Physics Lab	SC (L)	0	0	2	1	None
CY103	Biology for Engineers	SC	2	0	0	2	None
Engineering Science and Arts							
ME101	Engineering Mechanics	ESA	3	1	0	4	None
CS101	Computer & Coding	ESA	2	0	0	2	None
CS151	Computer & Coding Lab	ESA (L)	0	0	2	1	None
CE101	Engineering Graphics	ESA (L)	0	1	3	2	None
Skill Enhancement Compulsory Course							
HS101	Communication Skills	SECC(L)	0	1	2	2	None
Value Added Course							
VA101	NSS/NCC	VAC (A)	0	0	2	0	None
Total Contact Hours – Component wise			13	4	11		-
Total Contact Hours			28			21	-

Semester Wise Model Plan – Second Semester

Course Code	Course Title	Course Type	Contact Hours			Credit C	Pre-requisites
			L	T	P		
Science Core							
MA102	Engineering Maths-II	SC	3	0	0	3	None
PH101/ CY101	Engineering Physics/Engineering Chemistry	SC	3	0	0	3	None
PH151/ CY151	Engineering Physics/Engineering Chemistry Lab	SC (L)	0	0	2	1	None
Engineering Science and Arts							
CE102	Environmental Science	ESA	2	0	0	2	None
EE102	Basic Electrical & Electronics Engineering	ESA	3	0	0	3	None
EE152	Basic Electrical & Electronics Engineering Lab	ESA (L)	0	0	2	1	None
ME152	Workshop Practice	ESA (L)	0	0	3	1	None
Skill Enhancement Compulsory Course							
HS102	Introduction to Innovation and Entrepreneurship	SECC	2	0	0	2	None
Ability Enhancement Compulsory Course							
CS102	Python Programming	AECC (L)	0	1	2	2	None
Value Added Course							
HS104	Human Values and Ethical Mindfulness	VAC	2	0	0	2	None
VA102	Skill Development & Prototyping	VAC (L)	0	0	2	1	None
VA104	NSS/NCC	VAC (A)	0	0	2	0	None
Total Contact Hours – Component wise			15	1	13		-
Total Contact Hours			29			21	-

Semester Wise Model Plan – Third Semester

Course Code	Course Title	Course Type	Contact Hours			Credit	Pre-requisites
			L	T	P	C	
Department Specific Core							
DP20X		DSC	3	0	0	3	
DP20X		DSC	3	0	0	3	
DP20X		DSC	3	0	0	3	
DP20X		DSC	3	0	0	3	
Department Specific Elective							
DP21X		DSE	3	0	0	3	
Open Elective							
DP27X		OE	2	0	0	2	
Value Added course/ Dissertation							
DP28X		VAC	2	0	0	2	
Laboratory							
DP25X		L	0	0	2	1	
DP25X		L	0	0	2	1	
DP25X		L	0	0	2	1	
Total Contact Hours – Component wise			19	0	6		-
Total Contact Hours			25			22	-

* DP stands for 2-digit respective Department code

Basket of Elective Courses to be decided by the Departments, MOOC/NPTEL courses are to be encouraged.

Semester Wise Model Plan – Fourth Semester

Course Code	Course Title	Course Type	Contact Hours			Credit	Pre-requisites
			L	T	P	C	
Department Specific Core							
DP20X		DSC	3	0	0	3	
DP20X		DSC	3	0	0	3	
DP20X		DSC	3	0	0	3	
DP20X		DSC	3	0	0	3	
Department Specific Elective							
DP21X		DSE	3	0	0	3	
Open Elective							
DP27X		OE	2	0	0	2	
Skill Enhancement Compulsory Course							
DP23X		SECC	2	0	0	2	
Laboratory							
DP25X		L	0	0	2	1	
DP25X		L	0	0	2	1	
DP25X		L	0	0	2	1	
Total Contact Hours – Component wise			19	0	6		-
Total Contact Hours			25			22	-

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Basket of Elective Courses to be decided by the Departments, MOOC/NPTEL courses are to be encouraged.

Semester Wise Model Plan – Fifth Semester

Course Code	Course Title	Course Type	Contact Hours			Credit	Pre-requisites
			L	T	P	C	
Department Specific Core							
DP30X		DSC	3	0	0	3	
DP30X		DSC	3	0	0	3	
DP30X		DSC	3	0	0	3	
Department Specific Elective							
DP31X		DSE	3	0	0	3	
Open Elective							
DP37X		OE	2	0	0	2	
Ability Enhancement Compulsory Course							
DP37X	Internship-1	AECC	0	0	0	1	
Skill Enhancement Compulsory Course							
DP33X	Seminar and Technical Report Writing	SECC	0	0	2	1	
Value Added course/ Dissertation							
DP38X	Minor Project-1	VAC	0	0	4	2	
Laboratory							
DP35X		L	0	0	2	1	
DP35X		L	0	0	2	1	
DP35X		L	0	0	2	1	
Total Contact Hours – Component wise			14	0	12		-
Total Contact Hours			26			21	-

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Basket of Elective Courses to be decided by the Departments, MOOC/NPTEL courses are to be encouraged.

Semester Wise Model Plan – Sixth Semester

Course Code	Course Title	Course Type	Contact Hours			Credit	Pre-requisites
			L	T	P	C	
Department Specific Core							
DP30X		DSC	3	0	0	3	
DP30X		DSC	3	0	0	3	
Department Specific Elective							
DP31X		DSE	3	0	0	3	
DP31X		DSE	3	0	0	3	
Open Elective							
DP37X		OE	2	0	0	2	
Value Added course/ Dissertation							
VA30X	Indian Knowledge System	VAC	2	0	0	2	
DP38X	Minor Project-2	VAC	0	0	4	2	
Laboratory							
DP35X		L	0	0	2	1	
DP35X		L	0	0	2	1	
DP35X		L	0	0	2	1	
Total Contact Hours – Component wise			16	0	10		-
Total Contact Hours			26			21	-

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Basket of Elective Courses to be decided by the Departments, MOOC/NPTEL courses are to be encouraged.

Semester Wise Model Plan – Seventh Semester

Course Code	Course Title	Course Type	Contact Hours			Credit	Pre-requisites
			L	T	P	C	
Department Specific Elective							
DP41X		DSE	3	0	0	3	
DP41X		DSE	3	0	0	3	
DP41X		DSE	3	0	0	3	
DP41X		DSE	3	0	0	3	
Open Elective							
DP47X		OE	2	0	0	2	
Ability Enhancement Compulsory Course							
DP47X	Internship-2	AECC	0	0	0	1	
Value Added course/ Dissertation							
DP48X	Major Project-1	VAC	0	0	8	4	
Total Contact Hours – Component wise			14	0	8		-
Total Contact Hours			22			19	-

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Basket of Elective Courses to be decided by the Departments, MOOC/NPTEL courses are to be encouraged.

Semester Wise Model Plan – Eighth Semester

Course Code	Course Title	Course Type	Contact Hours			Credit	Pre-requisites
			L	T	P	C	
Department Specific Elective							
DP41X		DSE	3	0	0	3	
DP41X		DSE	3	0	0	3	
Value Added course/ Dissertation							
DP48X	Major Project-1	VAC	0	0	22	11	
Total Contact Hours – Component wise			6	0	22		-
Total Contact Hours			28			17	-

* DP stands for 2-digit respective Department code

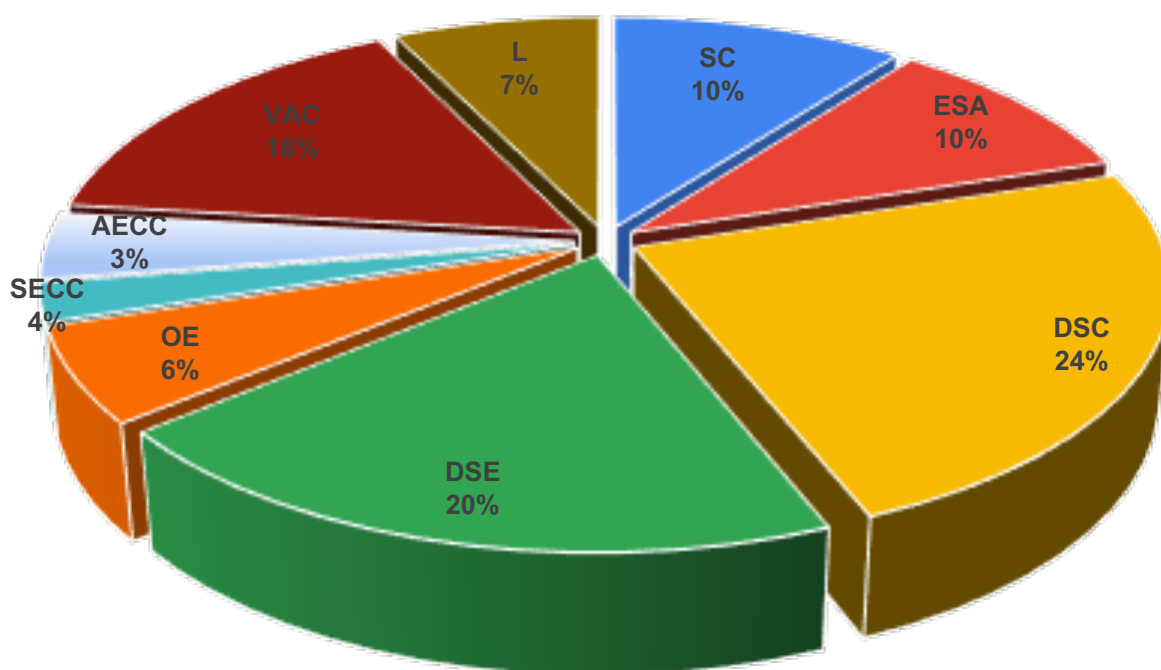
Basket of Elective Courses to be decided by the Departments, MOOC/NPTEL courses are to be encouraged.

Semester Wise Model Plan – Eighth Semester

Sem	SC	ESA	DSC	DSE	OE	AECC	SECC	VAC	Lab	Total Credit
I	SC1 [4] SC2 [3] SC3 [2] SC-L [1]	ESA1 [4] ESA2 [2] ESA-L [1] ESA-L [2]					SECC-L [2]	VAC-A [0]		21
II	SC4 [3] SC5 [3] SC-L [1]	ESA3 [2] ESA4 [3] ESA-L [1] ESA-L [1]				AECC-L [2]	SECC1 [2]	VAC1 [2] VAC-L [1] VAC-A [0]		21
III			DSC1 [3] DSC2 [3] DSC3 [3] DSC4 [3]	DSE1 [3]	OE1 [2]			VAC2 [2]	L1 [1] L2 [1] L3 [1]	22
IV			DSC5 [3] DSC6 [3] DSC7 [3] DSC8 [3]	DSE2 [3]	OE2 [2]		SECC2 [2]		L4 [1] L5 [1] L6 [1]	22
V			DSC9 [3] DSC10 [3] DSC11 [3]	DSE3 [3]	OE3 [2]	AECC1 [1]	SECC3 [1]	VAC3 [2]	L7 [1] L8 [1] L9 [1]	21
VI			DSC12 [3] DSC13 [3]	DSE4 [3] DSE5 [3]	OE4 [2]			VAC4 [2] VAC5 [2]	L10 [1] L11 [1] L12 [1]	21
VII				DSE6 [3] DSE7 [3] DSE8 [3] DSE9 [3]	OE5 [2]	AECC2 [1]		VAC6 [4]		19
VIII				DSE10 [3] DSE11 [3]				VAC7 [11]		17
Total Credit	17	16	39	33	10	4	7	26	12	164

Components Credit Summary - BTech Curriculum										
Course Type with Abbreviation		I	II	III	IV	V	VI	VII	VIII	Total
SC	Science Core	10	7							17
ESA	Engineering Science & Arts	9	7							16
DSC	Dept. Specific Core			12	12	9	6			39
DSE	Dept. Specific Elective			3	3	3	6	12	6	33
OE	Open Elective			2	2	2	2	2		10
AECC	Ability Enhancement Compulsory Course		2			1		1		4
SECC	Skill Enhancement Compulsory Course	2	2		2	1				7
VAC	Value Added Course		3	2		2	4	4	11	26
L	Laboratory Course			3	3	3	3			12
Total Credits										164

Credit Summary



■ SC ■ ESA ■ DSC ■ DSE ■ OE ■ AECC ■ SECC ■ VAC ■ L

Course structure and credit requirements

Description	Total Credits	Comments	Exit Degree		
SC	17	Mandatory Credits (A=42) for 1-year Course	Eligible for Certificate on Foundations of Engineering	Eligible for Diploma in _____	Eligible for Advanced Diploma in _____
ESA	16				
Ability/Skill Enhancement (AECC & SECC)	6				
Value Added (VAC)	3				
Total (A)	42				
Major & Electives (DSC & DSE)	30	Mandatory Credits (B=66) for 2-year Course		Eligible for Diploma in _____	Eligible for Advanced Diploma in _____
Open Elective (OE)	4				
Ability/Skill Enhancement (AECC & SECC)	2				
Value Added (VAC)	2				
Laboratory (L)	6				
Total (B1)	44				
Total (B=A+B1)	86				
Additional Major & Elective (DSC & DSE)	24	Mandatory credits (C=128) for 3-year Course		Eligible for Diploma in _____	Eligible for Advanced Diploma in _____
Additional Open Elective (OE)	4				
Additional Ability/Skill Enhancement (AECC & SECC)	2				
Value Added (VAC)-Minor Project	6				
Laboratory (L)	6				
Total (C1)	42				
Total (C=B+C1)	128				
Advance Elective (DSE & OE)	20	Mandatory credits (D=165) for 4-year Course		Eligible for Diploma in _____	Eligible for B.Tech. Degree in _____
Advance Ability/Skill Enhancement (AECC & SECC)	1				
Value Added (VAC)-Major Project	15				
Total (D1)	36				
Total (D=C+D1)	164				