

BNM Institute of Technology

An Autonomous Institution under VTU
Department of Information Science and Engineering

Scheme of Teaching 2024-2028 Batch

III Semester

Sl No	Course Type	Course Code	Course Title	Teaching Department	Teaching Hour/week				Contact Hour	Total Credits	Examination		
					L	T	P	J			CIE	SEE	Total
1	BSC	24MAC131	Fourier Transform, Mathematical logic and Advanced Linear Algebra	Mathematics	2	2			4	3	50	50	100
2	PCC	24ISE132	Computer Organization	ISE	3				3	3	50	50	100
3	PCC	24ISE133	Operating Systems	ISE	3				3	3	50	50	100
4	PCI	24ISE134	Data Structures and Applications	ISE	3		2		5	4	50	50	100
5	PCI	24ISE135	Object Oriented Programming using Java	ISE	3		2		5	4	50	50	100
6	PBL	24ISE136	Web Technology	ISE			2	2	4	2	50	50	100
7	IPL	24ISE137	Innovative Project Lab	ISE				2	2	1	100		100
8	AEC	24SFT138	Softskill-1	ISE			2		2	1	100		100
					14	2	8	4	28	21	500	300	800

Note: **BSC:** Basic Science Course, **PCC:** Professional Core Course, **HUM:** Humanity and Social Science & Management Courses, **PCI:** Professional Core Integrated, **PBL –** Project Based Learning **AEC –**Ability Enhancement Courses, **UHV –** Universal Human Values, **PE:** Professional Elective, **OE:** Open Elective, **INT:** Summer Internship.

L –Lecture, T – Tutorial, P- Practical/ Drawing, J – Project Component, **CIE:** Continuous Internal Evaluation, **SEE:** Semester End Examination

Credit definition: 1 hour Lecture (L) per week = 1 Credit

2 hours Tutorial (T) per week = 1 Credit

2 hours Practical /Drawing (P) per week = 1 Credit

2 hours Project Component (J) per week = 1 Credit

(a) Four credit courses are to be designed for 50 hours Teaching – Learning process.

(b) Three credit courses are to be designed for 40 hours Teaching – Learning process.

(c) Two credit courses are to be designed for 25 hours Teaching – Learning process.

(d) One credit course are to be designed for 12-15 hours Teaching – Learning process

The course prescribed to lateral entry Diploma holders admitted to III semester of Engineering programs

Additional Director & Principal
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IV Semester

Sl No	Course Type	Course Code	Course Title	Teaching Department	Teaching				Contact Hour	Total Credits	Examination		
					L	T	P	J			CIE	SEE	Total
1	BSC	24MAC141	Statistics, Probability and Graph Theory	Mathematics	2	2			4	3	50	50	100
2	PCC	24ISE142	Microcontroller and Embedded System	ISE	3	1	1		5	4	50	50	100
3	PCI	24ISE143	DataBase Management System	ISE	3		1	1	5	4	50	50	100
4	PCI	24ISE144	Design and Analysis of Algorithms	ISE	3		2		5	4	50	50	100
5	PBL	24ISE145	Robotic Process Automation	ISE			2	2	4	2	50	50	100
6	INT	24ISE146	Internship - I/ Innovative Project Lab	ISE			2	2	2	2	100		100
7	AEC	24CIP147	Constitution of India and Professional Ethics, IKS and UHV	HSS		2			2	1	100		100
8	AEC	24SFT148	Softskills - 2	ISE			2		3	1	100		100
					11	5	10	5	30	21	550	250	800

Internship - I (24ISE146): All the students admitted shall have to undergo a mandatory summer internship of 04 weeks during the intervening vacation of II and III semesters. Summer Internship shall include Inter / Intra Institutional activities, VTU approved skill enhancement courses. A Viva-voce examination shall be conducted during IV semesters and the prescribed credit shall be included in IV semesters. The internship shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not take up / complete the internship shall be declared fail and shall have to complete during subsequent examination after satisfying the internship requirements. (The faculty coordinator or mentor has to monitor the students' internship progress and interact to guide them for the successful completion of the internship.)

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V Semester

Sl No	Course Type	Course Code	Course Title	Teaching Department	Teaching				Contact Hour	Total Credits	Examination		
					L	T	P	J			CIE	SEE	Total
1	PCC	24ISE151	Software Engineering Project Management and Finance	ISE	2	2			4	3	50	50	100
2	PCC	24ISE152	Automata Theory and Computability	ISE	2	2			4	3	50	50	100
3	PCI	24ISE153	Data Science using Python	ISE	2	1	1		5	3	50	50	100
4	PCI	24ISE154	Computer Networks	ISE	2	2	2		6	4	50	50	100
5	PBL	24ISE155	Computer Graphics and Animation	ISE			2	2	2	2	50	50	100
6	OE	24ISE156x	Open Elective 1	ISE	3				3	3	50	50	100
7	AEC	24ISE157	Employability Skill - I (Technical)	P&T		2			2	1	50		100
8	INT	24ISE158	Internship - II	ISE			4		4	2	100		100
					11	9	9	2	30	21	450	300	800

Summer Internship - II (24ISE158): All the students admitted shall have to undergo a mandatory summer internship of 04 weeks during the intervening vacation of IV semesters. Summer Internship shall include Inter / Intra Institutional activities. A Viva-voce examination shall be conducted during IV semesters and the prescribed credit shall be included in IV semesters. The internship shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not take up / complete the internship shall be declared fail and shall have to complete during subsequent examination after satisfying the internship requirements. (The faculty coordinator or mentor has to monitor the students' internship progress and interact to guide them for the successful completion of the internship.)

AICTE Activity Points to be earned by students admitted to BE day college programme (For more details refer to Chapter 6, AICTE Activity Point Programme, Model Internship Guidelines): Over and above the academic grades, every Day College regular student admitted to the 4 years Degree programme and every student entering 4 years Degree programme through lateral entry, shall earn 100 and 75 Activity Points respectively for the award of degree through AICTE Activity Point Programme. Students transferred from other institutions and Universities to the fifth semester are required to earn 50 Activity Points from the year of entry to BNMIT. The Activity Points earned shall be reflected on the student's eighth semester Grade Card. The activities can be spread over the years, anytime during the semester weekends and holidays, as per the liking and convenience of the student from the year of entry to the programme. However, the minimum hours' requirement should be fulfilled. Activity Points (non-credit) do not affect SGPA/CGPA and shall not be considered for vertical progression. In case students fail to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of the degree only after the release of the Eighth semester Grade Card.

Open Elective 1			
24ISE1561	Introduction to Web Technologies	24ISE1563	Design and Analysis of Algorithms
24ISE1562	Software Engineering	24ISE1564	Cloud Computing

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VI Semester

Sl No	Course Type	Course Code	Course Title	Teachning Department	Teaching				Contact Hour	Total Credits	Examination		
					L	T	P	J			CIE	SEE	Total
1	PCC	24ISE161	Cryptography and Information Security	ISE	2	2			4	3	50	50	100
3	PCI	24ISE162	Cloud Computing and its Application	ISE	2		1		3	3	50	50	100
3	PCI	24ISE163	Artificial Intelligence and Machine Learning	ISE	2	1	1		5	4	50	50	100
4	PBL	24ISE164	Virtual and Augmented Reality	ISE			2	2	4	2	50	50	100
5	PE	24ISE165x	Professional Elective 1	ISE	3				3	3	50	50	100
6	PE	24ISE166x	Professional Elective 2	ISE	3				3	3	50	50	100
7	OE	24ISE167x	Open Elective 2	ISE	3				3	3	50	50	100
8	AEC	24ISE168	Employability Skill-II (Technical)	P&T		2			2	1	100		100
					15	5	4	2	27	22	450	350	800

AICTE Activity Points to be earned by students admitted to BE day college programme (For more details refer to Chapter 6, AICTE Activity Point Programme, Model Internship Guidelines): Over and above the academic grades, every Day College regular student admitted to the 4 years Degree programme and every student entering 4 years Degree programme through lateral entry, shall earn 100 and 75 Activity Points respectively for the award of degree through AICTE Activity Point Programme. Students transferred from other institutions and Universities to the fifth semester are required to earn 50 Activity Points from the year of entry to BNMIT. The Activity Points earned shall be reflected on the student's eighth semester Grade Card. The activities can be spread over the years, anytime during the semester weekends and holidays, as per the liking and convenience of the student from the year of entry to the programme. However, the minimum hours' requirement should be fulfilled. Activity Points (non-credit) do not affect SGPA/CGPA and shall not be considered for vertical progression. In case students fail to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of the degree only after the release of the Eighth semester Grade Card.

Professional Elective 1

24ISE1651	Data Mining	24ISE1654	Data Visualization
24ISE1652	Blockchain Technologies: Platforms and Applications	24ISE1655	UI Framework
24ISE1653	Cybersecurity	24ISE1656	Strategic Management

Professional Elective 2 (MOOC Course)

24ISE1661	Natural Language Processing	24ISE1664	Deep Learning
24ISE1662	No SQL	24ISE1665	Agile Software Development
24ISE1663	Operation Research	24ISE1666	Knowledge Management

Open Elective 2

24ISE1671	Introduction to Data science	24ISE1673	Introduction to Block chain
24ISE1672	Software Testing	24ISE1674	Introduction to Big Data

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VII Semester

Sl No	Course Type	Course Code	Course Title	Teaching Department	Teaching				Contact Hour	Total Credits	Examination		
					L	T	P	J			CIE	SEE	Total
1	PCI	24ISE171	Big Data Analytics	ISE	2	2	2		5	4	50	50	100
2	CPE	24ISE172x	Professional elective 3	ISE	3				3	3	50	50	100
3	CPE	24ISE173x	Professional elective 4	ISE	3				3	3	50	50	100
4	AEC	24ISE174	Research Methodology and IPR	ISE	1	2			3	2	50	50	100
5	PROJECT	24ISE175	Project Phase - I	ISE				10	10	5	100		100
					9	4	2	10	24	17			500

Project work: Based on the abilities of the students and recommendations of the mentor, a single discipline or a multidisciplinary project can be assigned to an individual student or to a group having not more than 4 students. In extraordinary cases, like the funded projects requiring students from different disciplines, the project student strength can be 5 or 6.

AICTE Activity Points to be earned by students admitted to BE day college programme (For more details refer to Chapter 6, AICTE Activity Point Programme, Model Internship Guidelines): Over and above the academic grades, every Day College regular student admitted to the 4 years Degree programme and every student entering 4 years Degree programme through lateral entry, shall earn 100 and 75 Activity Points respectively for the award of degree through AICTE Activity Point Programme. Students transferred from other institutions and Universities to the fifth semester are required to earn 50 Activity Points from the year of entry to BNMIT. The Activity Points earned shall be reflected on the student's eighth semester Grade Card. The activities can be spread over the years, anytime during the semester weekends and holidays, as per the liking and convenience of the student from the year of entry to the programme. However, the minimum hours' requirement should be fulfilled. Activity Points (non-credit) do not affect SGPA/CGPA and shall not be considered for vertical progression. In case students fail to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of the degree only after the release of the Eighth semester Grade Card.

Professional Elective 3			
24ISE1721	Advanced Computer Vision	24ISE1724	Python for Cybersecurity
24ISE1722	Smart Contracts and Solidity Programming	24ISE1725	Salesforce Developer(Industry Elective)
24ISE1723	Prompt Engineering	24ISE1726	Business Analytics

Professional Elective 4 (MOOC Course)			
24ISE1731	Advacned Distrubuted Systems	24ISE1734	Ethical Hacking
24ISE1732	Human Computer Interaction	24ISE1735	Reniforcement Learning
24ISE1733	Multicore comuter Architecture	24ISE1736	SoftwareTesting

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VIII Semester

Sl No	Course Type	Course Code	Course Title	Teaching Department	Teaching				Contact Hour	Total Credits	Examination		
					L	T	P	J			CIE	SEE	Total
1	CPE	24ISE181x	Professional elective 5	ISE	3				3	3	50	50	100
2	PROJECT	24ISE182	Project Phase - II	ISE			12		12	6	50	50	100
3	INT	24ISE183	Internship/Global Certification Course	ISE			18		18	9	50	50	100
					3	0	30	0	33	18			300

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Internship/ Global Certification Course (24ISE183): All the students admitted shall have to undergo a mandatory summer internship of 24 weeks during VIII semesters. Summer Internship shall include Industry/Research/startup or a global certification offered from the department. A Viva-voce examination shall be conducted during VIII semesters and the prescribed credit shall be included in VIII semesters. Those, who do not take up / complete the internship shall be declared fail and shall have to complete during subsequent examination after satisfying the internship requirements. (The faculty coordinator or mentor has to monitor the students' internship progress and interact to guide them for the successful completion of the internship.)

Professional Elective 5 (MOOC Course)

24ISE1811	Business Intelligence & Analytics	24ISE1814	Full Stack Development
24ISE1812	Blockchain and web Development	24ISE1815	GPU Architecture and programming
24ISE1813	Foundations of Cyber Physical Systems	24ISE1816	Privacy and security in online social Media


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