

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WEST BENGAL
(Formerly West Bengal University of Technology)
Syllabus of B.Sc. In IT
(Effective from 2023-24 Academic Sessions)

Graduate Attribute:

The Bachelor of Science in Information Technology (B. Sc. IT) program is meticulously crafted to provide students with a comprehensive and contemporary understanding of the multifaceted field of information technology. The associated Graduate Attributes (GAs) encompass a broad spectrum of knowledge, competencies, values, and skills intended to foster holistic development and contribute meaningfully to society. Through a blend of rigorous academic coursework and practical experiences, students acquire a well-rounded skill set that extends beyond theoretical concepts. The GAs, cultivated through curricular, co-curricular, and extra-curricular initiatives, are designed to be transferrable globally, preparing graduates to navigate diverse professional landscapes and tackle the complex challenges posed by the dynamic and ever-evolving field of information technology.

1. Technical Competence:

- Graduates will possess a strong foundation in computer science concepts, programming languages, software development methodologies, and technical tools commonly used in the industry.

2. Problem-Solving Skills:

- Graduates will be adept at analyzing complex problems, designing effective solutions, and implementing these solutions using appropriate programming languages and technologies.

3. Software Development:

- Graduates will be skilled in the entire software development lifecycle, including requirements analysis, design, implementation, testing, deployment, and maintenance of software applications.

4. Programming Proficiency:

- Graduates will demonstrate expertise in at least one or more programming languages and the ability to write efficient, maintainable, and well-documented code.

5. Database Management:

- Graduates will understand database design principles, be familiar with database management systems, and be capable of designing and managing databases for various applications.

6. Communication Skills:

- Graduates will possess effective communication skills, including the ability to articulate technical concepts clearly to both technical and non-technical stakeholders.

7. Teamwork and Collaboration:

- Graduates will work effectively as part of a team, demonstrating the ability to collaborate, share ideas, and contribute positively to group projects.

8. Ethical and Professional Behavior:

- Graduates will understand the ethical implications of technology and demonstrate professional conduct in their work, respecting intellectual property rights, privacy, and security considerations.

9. Continuous Learning:

- Graduates will recognize the dynamic nature of the field and the need for ongoing learning and skill development to stay up-to-date with emerging technologies and industry trends.

10. Adaptability:

- Graduates will be adaptable to changing technological landscapes and capable of applying their foundational knowledge to new and evolving challenges.

11. Critical Thinking:

- Graduates will be capable of evaluating information critically, making informed decisions, and applying logical reasoning to solve complex problems.

12. Project Management:

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- Graduates will have a basic understanding of project management principles, enabling them to manage time, resources, and tasks effectively within software development projects.

13. User-Centered Design:

- Graduates will appreciate the importance of designing software applications with user experience in mind, ensuring usability, accessibility, and user satisfaction.

Curriculum Structure

SEM-1

Sl.	Subject Type	Code	Subject Name	Credits			Total Credits
				L	T	P	
1.	Major	BSCITM101	Fundamental of Programming using C	3	0	2	5
		BSCITM191	Fundamental of Programming using C lab				
2.		BSCITM102	Introduction to Digital Electronics	3	0	2	5
		BSCITM192	Digital Electronics Lab				
3.	Minor	MIM101	Principles of Management	3	0	0	3
4.	GE		Anyone from GE Basket A or D	3	0	0	3
5.	AECC	AECC101	English & Professional Communication	2	0	0	2
6.	SEC	SEC181	Life Skills & Personality Development	2	0	0	2
7.	VAC	VAC181A	Yoga	2	0	0	2
		VAC181B	Health & Wellness				
		VAC181C	Sports				
Total Credit							22

SEM-2

Sl.	Subject Type	Code	Subject Name	Credits			Total Credits
				L	T	P	
1.	Major	BSCITM201	Programming with Python	3	0	2	5
		BSCITM 291	Programming with Python Lab				
2.		BSCITM202	Study of Computer Architecture and organization	5	0	0	5
3.	Minor	MIM201	Organization Behavior	3	0	0	3
4.	GE		Any one from GE Basket B or E	3	0	0	3
5.	AECC	AECC201	Modern Indian Languages and Literature	2	0	0	2
6.	SEC	SEC201	IT Skills	2	0	0	2
7.	VAC	VAC281A	Critical Thinking	2	0	0	2
		VAC281B	NSS				
		VAC281C	Mental Health				
		VAC281D	Environmental Studies				
Total Credit							22

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SEM-3

Sl.	Subject Type	Code	Subject Name	Credits			Total Credits
				L	T	P	
1.	Major	BSCITM301	Study of Data structure and Algorithms	3	1	2	5
		BSCITM391	Data structure lab Using C/Python				
2.		BSCITM302	Database Management System	3	0	2	5
		BSCITM392	Database management System Lab				
3.	Minor	MIM301	Principal of Marketing	4	0	0	4
4.	GE		Any one from GE Basket C or F	3	0	0	3
5.	AECC	AECC301	The Constitution, Human Rights and Law	2	0	0	2
6.	SEC	SEC301	Understanding basics of Cyber Security	2	0	0	2
Total Credit							21

SEM-4

Sl.	Subject Type	Code	Subject Name	Credits			Total Credits
				L	T	P	
1.	Major	BSCITM401	Principles of Software Engineering	4	0	0	4
2.		BSCITM402	Operating System with UNIX	3	0	1	4
		BSCITM492	UNIX lab				
3.		BSCITM403	OOPs with JAVA	3	0	2	5
		BSCITM493	OOPs with JAVA lab				
4.	Minor	MIM401	Human resource Management	3	1	0	4
5.		MIM402	A. Sales and distribution management B. E-commerce	3	1	0	4
6.	AECC	AECC401	Society Culture and Human Behavior	2	0	0	2
Total Credit							23

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SEM-5

Sl.	Subject Type	Code	Subject Name	Credits			Total Credits
				L	T	P	
1.	Major	BSCITM501	Computer Networking	3	0	2	5
		BSCITM591	Computer Networking Lab				
2.		BSCITM502	Data Warehousing and Data Mining	5	0	0	5
3.	Minor	MIM501	Financial Management	4	0	0	4
4.		MIM502	Entrepreneurship	4	0	0	4
5.	SEC	SEC581	Industrial Training-Started after 4th semester(Sem. Break) and completed within 5th semester(weekend)	0	0	4	4
Total Credit							22

SEM-6

Sl.	Subject Type	Code	Subject Name	Credits			Total Credits
				L	T	P	
1.	Major	BSCITM601	Artificial Intelligence	5	0	0	5
2.		BSCITM602	Information and Cyber security	4	0	0	4
3.		BSCITM603 BSCITM691	Web Technology Web Technology Lab	3	0	2	5
4.	Minor	MIM601	Customer relationship management	4	0	0	4
5.		MIM602	Career planning and Management	4	0	0	4
Total Credit							22

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SEM-7

Sl.	Subject Type	Code	Subject Name	Credits			Total Credits
				L	T	P	
1.	Major	BSCITM701 BSCITM791	Computer Graphics Computer Graphics lab	3	0	2	5
2.		BSCITM702	Research Methodology	4	1	0	5
3.		BSCITM703- A/-B	A. Theory of Computation B. Cloud Computing	3	1	0	4
4.	Minor	MIM701	Consumer behavior	4	0	0	4
5.		MIM702	Strategic management	4	0	0	4
Total Credit							22

SEM-8

Sl.	Subject Type	Code	Subject Name	Credits			Total Credits
				L	T	P	
1.	Major	BSCITM801	IOT and its Application	4	1	0	5
2.		BSCITM802	Distributed Database Management System	3	0	2	5
4.	SEC	SEC881	Research Project	0	0	12	12
Total Credit							22