Maulana Abul Kalam Azad University of Technology, WB
(Formerly known as West Bengal University of Technology)
Semester wise Structure and Curriculum for UG Course in BCA
Effective from academic session 2025-26

SEMESTER I

CC101	Mathematics Foundations to Computer Science - I
SEC101	Problem Solving Techniques
CC102	Computer Architecture
AEC101	General English - I
MDE101	Indian Knowledge System
VAC101	Environmental Science and sustainability
AEC102 [optional course]	Additional Course - Indian or Foreign Language Other than Mother Tongue and English (Indian Languages: Sanskrit/Hindi/All Regional languages) (Foreign Languages: Spanish/German/French/Korean/Mandarin)

SEMESTER II

CC103	Mathematics Foundations to Computer Science - II
CC104	Data Structures
CC105	Operating Systems
SEC102	Object Oriented Programming using Java
SEC103	Web Technologies
VAC102	Indian Constitution
AEC103 [optional course]	Additional Course - Indian or Foreign Language Other than Mother Tongue and English (Indian Languages: Sanskrit/Hindi/All Regional languages) (Foreign Languages: Spanish/German/French/Korean/Mandarin)

SEMESTER III

CC201	Probability and Statistics
CC202	Data Base Management System
SEC201	Python Programming
CC203	Software Engineering
DSE201	Professional Elective – I (Basics of Data Analytics using Spreadsheet/Feature Engineering/Web Programming -I)
VAC201	Yoga/Sports/NCC/NSS/Disaster Management

SEMESTER IV

CC204	Entrepreneurship and Startup Ecosystem
CC205	Computer Networks
CC206	Design and Analysis of Algorithm
CC207	Artificial Intelligence
DSE202	Professional Elective – II (Data Visualization/Introduction to ML/Web Programming -II)
SEC202	Design Thinking and Innovation

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SEMESTER V

DSE301	Professional Elective – III (Introduction to Data Science/Neural Network)
DSE302	Professional Elective – IV (Time Series Analysis/Digital Image Processing)
DSE303	Professional Elective – V (Machine Learning/Natural Language Processing)
SEC301	Quantitative Techniques
SEC302	Internship/capstone Project
SEC303	Major Project

SEMESTER VI

CC301	Generative AI
DSE304	Professional Elective – VI (Big Data Analytics/Deep Learning for Computer Vision)
DSE305	Professional Elective – VII (Exploratory Data Analysis/Predictive Analysis)
AEC301	Soft Skills
SEC304	Major Project

SEMESTER VII - BCA (Honours)

Specialization – AI & ML

MDE401	Social Network Analysis
CC401	Optimization of ML
DSE401	Professional Elective – VIII (Explainable AI)
DSE402	Professional Elective – IX (Evolutionary Algorithm)
SEC401	Dissertation work
SEC402	Summer Internship II

SEMESTER VII - BCA (Honours)

Specialization – Data Science

MDE401	Advanced Statistical methods for Data Science
CC401	Python for Data Science
DSE401	Professional Elective – VIII (Business Intelligence & Analytics)
DSE402	Professional Elective – IX (Data Mining & Warehousing)
SEC401	Dissertation work
SEC402	Summer Internship II

SEMESTER VIII - BCA (Honours)

DSE403	Professional Elective – X (Advanced Data Visualization/Speech Recognition)
DSE404	Professional Elective – XI (Cloud Computing for Data Analytics/Augmented Reality & Virtual Reality)
DSE405	Professional Elective – XII (Data Security & Privacy/Security aspects of ML)
SEC403	Dissertation work