

Curriculum Format

Programme Name:

Curriculum applicable to (for admitted year xxxx-xx)

Curriculum Version:

Approved by & Date

B. Tech. Robotics & AI

AY 2025-26

1.0

1st Academic Council

University Core Min. Credit Requirements ----->**88**

Course Code	Category	Course Title	L	T	P	C	Pre/Co-Requisite	Anti-requisite	Course Discipline
Projects and Internships						18			
BIP402		Industrial Internship/ Senior Design Project	0	0	20	10	None	None	Engineering
CAP401		Capstone	0	0	8	4	None	None	Engineering
SIT301		Summer Internship / Global Industry Certification	0	0	4	2	None	None	Engineering
ECS201		Engineering Clinics - Multi Disciplinary Project	0	0	4	2	None	None	Engineering
Engineering Foundation						12			
UCS101		Introduction to Programming	3	0	0	3	None	None	Engineering
UCS101P		Introduction to Programming Lab	0	0	2	1			
UCS102		Problem Solving using Python	3	0	0	3	None	None	Engineering
UCS102P		Problem Solving using Python Lab	0	0	2	1			
UEC101		Basics of Electrical and Electronics Engineering	3	0	0	3	None	None	Engineering
UEC101P		Basics of Electrical and Electronics Engineering Lab	0	0	2	1			
Discipline Linked Engineering						8			
UCS201		Data Structures and Algorithms	3	0	0	3	None	None	Engineering
UCS201P		Data Structures and Algorithms Lab	0	0	2	1			
UCS202		Object Oriented Programming using JAVA	3	0	0	3	None	None	Engineering
UCS202P		Object Oriented Programming using JAVA Lab	0	0	2	1			
UME101		Workshop Practice	1	0	4	3	None	None	Engineering
UME102		Engineering Graphics Design	1	0	4	3	None	None	Engineering
UME103		Elements of Mechanical Engineering	2	0	0	2	None	None	Engineering
UCE101		Elements of Civil Engineering	2	0	0	2	None	None	Engineering
Humanities Basket						12			
USS101		Industry Specific Communication	3	0	0	3	None	None	Humanities
USS102		Quantitative Aptitude & Logical Reasoning	3	0	0	3	None	None	Humanities
USS201		Advanced Quantitative & Analytical Reasoning	3	0	0	3	USS102	None	Humanities
USS202		Industry oriented Programming skills	3	0	0	3	USS201	None	Humanities
Any two English courses depending on SKEPT result						6			
UHM101		English for Essential Communication	2	0	0	2	EPT (Not Cleared)	None	Humanities
UHM101P		English for Essential Communication Lab	0	0	2	1			
UHM102		English for Effective Communication	2	0	0	2	EPT (Cleared) /UHM1	None	Humanities
UHM102P		English for Effective Communication Lab	0	0	2	1			
UHM103		Technical English Communication	2	0	0	2	UHM102	None	Humanities
UHM103P		Technical English Communication Lab	0	0	2	1			
Any one Foreign Language course						2			
UFR101		Basic French	2	0	0	2	None	None	Humanities
UFR102		Basic Spanish	2	0	0	2	None	None	Humanities
UFR103		Basic German	2	0	0	2	None	None	Humanities
UFR104		Basic Japanese	2	0	0	2	None	None	Humanities
Science Basket						20			
USC101		Differential Calculus	4	0	0	4	None	None	Science
USC102		Linear Algebra and Differential Equations	4	0	0	4	USC101	None	Science
USC201		Applied Statistics	3	0	0	3	None	None	Science
USC201P		Applied Statistics Lab	0	0	2	1			
USC103		Modern Physics	3	0	0	3	None	None	Science
USC103P		Modern Physics Lab	0	0	2	1			
USC105		Engineering Chemistry	3	0	0	3	None	None	Science
USC105P		Engineering Chemistry Lab	0	0	2	1			
Non Graded Credit Courses						10			
UVC101	Online	Human Values and Ethics	2	0	0	2	None	None	NGCR
UVC202	Online	Indian Constitution	2	0	0	2	None	None	NGCR
UVC103		Environmental Studies	2	0	0	2	None	None	NGCR
UVC203	Online	Indian Knowledge System	1	0	0	1	None	None	NGCR
EMC101		Entrepreneurship Setup and Launch	0	0	4	2	None	None	Entrepreneurship & Management
UVC201	Student Club Activities	Co/Extra Curricular	0	0	2	1	None	None	NGCR

Programme Core Min. Credit Requirements ----->**43**

Course Code	Category	Course Title	L	T	P	C	Pre/Co-Requisite	Anti-requisite	Course Discipline
CSE201		Discrete Mathematical Structures	4	0	0	4	None	None	Science
CSE202		Digital Logic Design	3	0	0	3	UEC101	None	Engineering
CSE202P		Digital Logic Design Lab	0	0	2	1			
CSE203		Software Engineering	3	0	0	3	None	None	Engineering
CSE204		Database Management Systems	3	0	0	3	CSE201	None	Engineering
CSE204P		Database Management Systems Lab	0	0	2	1			
CSE301		Computer Architecture and Organization	4	0	0	4	CSE202	None	Engineering
CSE302		Operating Systems	3	0	0	3	None	None	Engineering
CSE302P		Operating Systems Lab	0	0	2	1			
CSE303		Artificial Intelligence	3	0	0	3	None	None	Engineering
CSE303P		Artificial Intelligence Lab	0	0	2	1			
CSE304		Design and Analysis of Algorithms	3	0	0	3	UCS201	None	Engineering
CSE304P		Design and Analysis of Algorithms Lab	0	0	2	1			
CSE305		Computer Networks	3	0	0	3	None	None	Engineering
CSE305P		Computer Networks Lab	0	0	2	1			
CSE306		Theory of Computation	4	0	0	4	None	None	Engineering
CSE401		Web Technologies	3	0	0	3	UCS202	None	Engineering
CSE401P		Web Technologies Lab	0	0	2	1			

Specialization Electives Min. Credit Requirements ----->**24**

Course Code	Category	Course Title	L	T	P	C	Pre/Co-Requisite	Anti-requisite	Course Discipline
Any course to fulfill the basket requirements									

CSE207		Introduction to Machine Learning	3	0	0	3	None	None	Engineering
CSE207P		Introduction to Machine Learning Lab	0	0	2	1			
CSE208		Internet of Things	3	0	0	3	None	None	Engineering
CSE208P		Internet of Things Lab	0	0	2	1			
CSE211		Robotics and its Applications	3	0	0	3	None	None	Engineering
CSE211P		Robotics and its Applications Lab	0	0	2	1			
CSE314		Microprocessors and Microcontrollers	3	0	0	3	CSE202	None	Engineering
CSE314P		Microprocessors and Microcontrollers Lab	0	0	2	1			
CSE317		Embedded Programming	3	0	0	3	UCS101	None	Engineering
CSE317P		Embedded Programming Lab	0	0	2	1			
CSE320		Robotic Process Automation	3	0	0	3	CSE211	None	Engineering
CSE320P		Robotic Process Automation Lab	0	0	2	1			
CSE325		Digital Image Processing	3	0	0	3	None	None	Engineering
CSE325P		Digital Image Processing Lab	0	0	2	1			
CSE403		Natural Language Processing	3	0	0	3	CSE303	None	Engineering
CSE403P		Natural Language Processing	0	0	2	1			
CSE406		Reinforcement Learning	3	0	0	3	CSE207	None	Engineering
CSE406P		Reinforcement Learning Lab	0	0	2	1			
CSE412		Sensors, Actuators and Signal Conditioning	3	0	0	3	CSE317	None	Engineering
CSE412P		Sensors, Actuators and Signal Conditioning Lab	0	0	2	1			
CSE415		Computer Vision and Robotics	3	0	0	3	CSE325	CSE408	Engineering
CSE415P		Computer Vision and Robotics Lab	0	0	2	1			
CSE417		Robot Operating System	3	0	0	3	CSE301	None	Engineering
CSE417P		Robot Operating System Lab	0	0	2	1			
CSE418		Deep Learning	3	0	0	3	CSE207	None	Engineering
CSE418P		Deep Learning Lab	0	0	2	1			
Open Electives Min. Credit Requirements ----->						9			
Course Code	Category	Course Title	T	P	C	Pre/Co-Requisite	Anti-requisite	Course Discipline	
Any Course after fulfilling Programme Core & Unified Core requirements without duplicity can be taken as Open Elective									

Credit Distribution

R&AI	Credits
University Core Courses	88
Engineering Foundation	20
Science Basket	20
Projects and Internships	18
Humanities	20
Value Added Courses	10
Programme Core Courses	43
Programme/ Specialization Elective Courses	24
Open Elective Courses	9
Total Credits	164